

Canadian Journal of Psychology

THE JOURNAL OF THE CANADIAN PSYCHOLOGICAL ASSOCIATION

EDITOR: JOHN A. LONG

ASSISTANT EDITOR: KATHLEEN M. HOBDAV

CONSULTING EDITORS:

E. S. W. BELYEA (*British Columbia*); J. TUCKMAN, R. VINETTE (*Quebec*);

W. G. SCOTT (*Ontario*); W. H. D. VERNON (*Maritimes*)

CONTENTS

<i>A Progress Report on Industrial Psychology: J. S. A. BOIS</i>	105
<i>Changing Teachers' Attitudes: JOSEPH E. MORSH AND E. MAVIS PLENDERLEITH</i>	117
<i>The Problem of Learning: JOHN K. MCCREARY</i>	130
<i>The Arnprior Experiment. A Study of World War II Pilot Selection Procedures in the RCAF and RAF: EDRO I. SIGNORI</i>	136
<i>Book Review</i>	151
<i>Proceedings of the Eighth Annual Meeting of the Canadian Psy- chological Association</i>	153
<i>Constitution of the Canadian Psychological Association</i>	162
<i>Council and Committees</i>	166
<i>Membership List</i>	168
<i>Regional Distribution of Members</i>	191

PUBLISHED QUARTERLY

MARCH - JUNE - SEPTEMBER - DECEMBER

THE UNIVERSITY OF TORONTO PRESS

\$3.00 PER YEAR

ALL RIGHTS RESERVED

Canadian Psychological Association

COUNCIL

Honorary President, S. R. LAYCOCK (Saskatoon)

EXECUTIVE

President, C. R. MYERS (Toronto)

Past President, J. S. A. BOIS (Montreal)

President Elect, J. D. KETCHUM (Toronto)

Secretary-Treasurer, C. H. TURNER (London)

DIRECTORS

D. E. SMITH (Edmonton)

W. E. BLATZ (Toronto)

MARY L. NORTHWAY (Toronto)

D. O. HEBB (Montreal)

N. W. MORTON (Ottawa)

D. C. WILLIAMS (Toronto)

EX OFFICIO MEMBERS OF COUNCIL

R. VINETTE,

President, Psychological Association of the Province of Quebec

D. C. G. MACKAY,

President, British Columbia Psychological Association

N. W. MORTON,

President, Ontario Psychological Association

1950 ANNUAL MEETING

Toronto, May 18th, 19th, 20th

Correspondence regarding subscriptions should be sent to the Canadian Psychological Association, 100 St. George St., Toronto 5, Canada.

Manuscripts or correspondence on editorial matters or advertising should be sent to the Editor, John A. Long, Ontario College of Education, 371 Bloor St. West, Toronto, Canada.

AUTHORIZED AS SECOND-CLASS MAIL, POST OFFICE DEPARTMENT, OTTAWA.



Canadian Journal of Psychology

A PROGRESS REPORT ON INDUSTRIAL PSYCHOLOGY¹

J. S. A. BOIS

Montreal

WHEN the Canadian Psychological Association was founded ten years ago, there were very few practising psychologists in Canada, and their influence in establishing the functional pattern of the new organization was not considerable. Eight years later, in his presidential address, given at our Annual Meeting in Ottawa, Karl Bernhardt acknowledged that conditions had already changed. "We have grown," he declared, "from a mere handful of academic psychologists with their laboratory playthings and their comfortable speculations to some hundreds of busy, practical, professional psychologists" (1). Last year, our secretary reported that over 40 per cent of our members were engaged in professional work, exclusive of teaching and research. And this year our presidential chair has been filled by an individual whose experience has a definitely negative correlation with pure research and academic pursuits. The time has come for me to vacate this chair. I am conscious of the fact that applied psychology was given recognition in my person, and I appreciate it very keenly.

Tonight, as a representative of applied psychology, I should like to bring you into certain areas of our professional work, where we meet situations that are not within the easy reach of our academic confrères. This excursion through partly uncharted fields will, I hope, give our younger members an idea of what they should expect when they join us in our labours. It may also give to those who are responsible for research and training an indication of what we need in men and equipment on the front line, far from their well-established headquarters of learning.

My remarks are limited to one sector of the field of application, that of industrial psychology. They are based on my personal experience as a consultant practising on my own; they may not apply to the industrial psychologist who is on the payroll of a firm and whose functions are encased within the box he occupies on the organization chart. Such a psychologist may be found at all levels and with a variety of responsibilities. He may be vice-president in charge of industrial relations, or he may be a mere tester in an employment office. But he is within the firm;

¹Presidential address, delivered at the Annual Meeting of the Canadian Psychological Association, Montreal, May 27, 1949.

his functions are articulated with those of a definite cluster of line or staff officials. My case has been different. I am an outsider and may make an appearance at almost any level, from that of consultant to the president on matters of general policy, to that of a selection specialist who evaluates a candidate for a selling job, for a foreman's position, or for a training course in time-study. But I have never been identified with the firm, any more than the family doctor is considered a member of the household.

From the periphery to the centre of the client organization, the functions of the industrial psychologist follow a gradient of growing usefulness and stability. At the low end of the curve he is likely to deal with aptitude testing, interview techniques, operator and foreman training, merit rating, possibly job analysis and evaluation, studies of morale, and so on. From this level, to the top of the curve, he passes through what I consider a very difficult phase of relationship with the executive group. He may be called upon to evaluate members of this group who have been a headache to management for years; he may be asked to give his views on personnel policies that he is expected to approve; he may come to realize that the source of many troubles is some high official who feels him coming, blocks his way, disregards his reports, or interprets them in a fanciful manner. He is being tested in a hard and practical way, by a battery of brains that he has disturbed in their habits. Resistance develops. The place is full of snares for the unwary psychologist who is unfamiliar with the ways of the world of business. His profession is not so well established as that of the physician or the engineer. He has to sell himself as an individual, and he is held back by the fear of acting like a charlatan. If he makes a false step, he is finished. He has lost a client, and psychology is out of the firm for a good while.

However, he may succeed. He will do so all the better if he has had the chance of dealing with a progressive top-management and has shown seasoned common sense in his profession and in administrative practices. Then the way is opened to effective work that shows substantial results. I described one of these cases in my presidential address at the annual meeting of the Psychological Association of the Province of Quebec last year (2). It may be summarized in the following excerpts from this address:

The psychologist finds that the executive group of the firm is weak. The works manager is old-fashioned and unable to keep pace with the times, the sales manager has been unequal to his task for years, the controller is not conscious of his capacities for development. The general manager has taken over from a predecessor whose performance was average or lower. There is no department of personnel; hiring, training, and firing has been done haphazardly. Morale is not high.

... The psychologist deals with each individual problem in order: a new works

manager and a new sales manager are promoted from the ranks and the former incumbents are transferred to specially created jobs where their prestige is maintained, their experience utilized, and their whims neutralized; a personnel manager is brought in; the controller and the general manager are evaluated and trained in executive thinking. As each member of this well-selected and well-balanced team becomes more efficient, the situation rights itself as by magic, the whole organization takes on a new life, sales show an upward swing, production runs more smoothly, morale is improving. After a few months, top management has to change its former plans and think of a physical expansion of the plant in two years instead of five.

To be perfectly honest, I suppose I should open my dead files and make with you a post-mortem examination of other cases which turned out badly. Very well, I shall. They range all the way from lack of competence and/or diplomacy on my part to lack of vision on the part of management. Here are a few illustrative instances.

Firm B has grown big during the war, and they are anxious to stay in the major league in peace time. They call in management engineers, cost accounting experts, psychological consultants, and *tutti quanti*. They go modern, shall we say. All heads of departments are old-timers who have grown with their jobs, which in turn have outgrown them. Management is now looking for understudies to these old-timers, and is very exacting regarding the qualifications of the newcomers. In evaluating the old and the young, I fail to vary my standards according to management's taste, and my reports look like a wholesale condemnation of the existing set up. To top it all, I detect that the second-in-command, who has worked to the limit of his mental capacity during the war, suffers from stomach ulcers because of the unpredictable behaviour of his chief, who throws him almost daily into fits of insecurity. I am so sure of my diagnosis that, under what appears to me a challenge and a provocation, I throw it in the face of the chief. Well, I leave it to you to imagine what was the outcome. Let me bring down the curtain on the scene.

Firm C is streamlining its figure, too. Business is good, and the excess profit money must be spent somehow, constructively if possible. Enter the experts, of whom I am one. But firm C is a family affair, and "my son," "my brother," and "my son-in-law" are key men by birthright, as in the Middle Ages. Stupid me, I act as if I were dealing with a twentieth-century organization. Of course, the office furniture is up-to-date, from fluorescent lighting to IBM machines, teletype, and tape recorder. Of course the machinery in the plant is replaced by the most recent inventions of mechanical engineering. But who dares suggest that "my brother" should be retired, that "my son" and "my son-in-law" should be kicked upstairs, shelved, or kept from interfering with the works? Who? This psychologist? "Well, I am sorry, Doctor, but we cannot go for your stuff." Before bringing down the curtain this time, let me note that the advertising manager, the controller, and the factory manager, all new men brought in from outside, disappear from the scene before the last act is over. I am out, too. The last time I heard of firm C, they were carrying on and apparently making good. Psychology? Pooh!

Firm D wanted a neat technical job, a battery of tests to select their machine operators. Why they wanted that and nothing else, I do not know to this day. I was not in the plant two days before I saw a thousand and one other jobs I could do for them that would be more useful and really worth the money they were

willing to spend. The factory superintendent was a terror; the foremen did not even suspect that there is such a thing as human relations; the training of new hands was bad; the wage differential from one department to another was a crying shame. The better type of young workers in the community were crowding the employment offices of other plants and shying away from this one. While working on my battery of tests, I pleaded many times to be allowed to put it aside and to tackle other problems that I knew were structural and vital. But no! For the general manager of firm D, psychology was testing, and testing was the whole of psychology. The latest news from this firm is that they have had a strike, and they are beginning to wonder if they should not introduce foreman training. My neat battery of tests has been kept on ice, fresh and unused.

In the cases mentioned so far, we have seen the psychologist in his usual role of consultant in matters of selection, promotion, training, and personnel policies. To these may be added such things as job analysis, job evaluation, merit rating, surveys of morale, employee counselling, market research analysis, and the like.

I should like to report in greater detail on a closer relationship, which, to me, represents definite progress. It brings us right into the midst of things. Let us call it *the role of participant observer and adviser, with cabinet status, in the councils of management*.

Here is a description of this role, as agreed upon in an actual case. It includes all that has been mentioned so far, but it penetrates further into the organization, as you will see.

FUNCTIONS OF THE CONSULTING PSYCHOLOGIST

1. Examines applicants for executive, supervisory, and sales positions, and submits his reports to the general manager.
2. Uses psychological evaluation methods which he deems necessary in cases of transfer and promotion of supervisory, executive, or sales personnel, and acts as adviser to proper authorities in such matters.
3. Acts as adviser to the personnel manager in matters of hiring interviews, testing of applicants, training, morale, study of problem cases, relations of the personnel department with other departments, and in the preparation of the annual report.
4. Gives individual counselling to cases referred to him by the general manager, the factory manager, the controller, or the personnel manager.
5. Gives individual counselling to members of executive or supervisory personnel who express the desire to consult him.
6. Advises the advertising manager in market research.
7. Keeps himself informed on policies and administrative changes inasmuch as they bear on the development, efficiency, and teamwork of executive and supervisory personnel.
8. Gives training in General Semantics applied to executive work to

members of executive and supervisory personnel designated by the general manager.

9. Analyses, by means of General Semantics techniques, jointly with executives interested, general and special problems referred to him by the general manager, the factory manager, or the controller.

10. Acts as adviser in foremen's and foreladies' round table discussions.

11. Acts as adviser to the sales manager with respect to the qualifications, training, and development of salesmen.

12. Receives from the general manager, the factory manager, the controller, and the personnel manager the information that he (the consultant) deems necessary to the proper exercise of his functions.

13. Makes suggestions to the general manager on improvements or corrections which he (the consultant) considers useful from the psychological viewpoint in the various areas he has surveyed.

14. Abstains from any direct action in line administration and limits his work to that of a staff consultant responsible to the general manager.

Most of the functions described in this job analysis are the familiar duties of a personnel consultant, I know. There are three things, however, which I must underline, because I consider them rather unusual.

One has to do with the duty, and the correlative right, of the consultant, to obtain from members of the executive team the information that he deems necessary for the fulfilment of his functions. This may cover such things as having a copy of certain types of inter-office, outgoing, or incoming correspondence, minutes of meetings, draft copies of standard procedures and policies in the making, and so on. It includes as well the unwritten story of significant events, perhaps small in themselves but cumulatively important, in the day-to-day life of the organization. The problem is to sift the seeds of progress or of trouble from the chaff of gossip and triviality.

The second feature of this relationship between the consultant and management is that the psychologist is formally invited and expected to proffer suggestions, without waiting to be asked in each particular instance. This involves more responsibility than one might expect. If something goes wrong because some important psychological factor has been neglected, the consultant, who has had access to all the facts at all times, cannot put the blame on anyone but himself.

The third characteristic is, to me, the most significant. The consultant is expected to act as more than a teacher of sound administrative thinking. He is a practical coach or trainer, who assists the executive in his actual wrestling with concrete problems, or rehearses with him what is likely to happen in a difficult interview, a hard-to-manage con-

ference, or in a touch-and-go deal with labour unions, suppliers, competitors, and the like. This is where the techniques of General Semantics give us the edge on specialists and technicians who know much more about the subject than we do, but who have not the training that we are expected to have in creative, purposive, and mature thinking.

Here are a few examples of the problems on which I had to organize, stimulate, and direct the thinking of some clients:

(a) They have tried an attachment to a machine, and according to the figures of their engineer and the reports received from another plant, it should reduce the cost of one operation by 25 per cent. It reduces it by 10 per cent only. The engineer and the factory manager cannot agree on the cause or causes of the failure. Where is the trouble?

(b) From their marketing surveys they have planned an advertising campaign that goes against the traditional thinking of their advertising agency. Hundreds of thousands of dollars are involved. How can they estimate their chances of getting results from this innovation?

(c) An extremely capable understudy to one of the top executives is secretly groomed to by-pass his immediate superior. If the president lets his plan be known or even suspected at the present time, it may create serious trouble. If the young man is not given enough opportunity to know the ins and outs of the business, he will not get the necessary preparation, he may become frustrated and get a job elsewhere. What special position should be created for him? What title should he be given?

(d) Their products are in the average-to-high-quality class, and they are nearing the saturation point of their normal market. Their production capacity has increased to a degree where they could start a line of definitely cheaper products at a lower cost than that of their competitors in the low-price field. Should they do it? If so, where, when, and how?

At first sight, it may seem that the psychologist is out of place when he plays a part in the study of such problems. You see him very far from his well-recognized fields of selection, appraisal, merit-rating, and the like. But is he out of place, really? I do not think so. The moment he limits his intervention to the psychological aspects of the situation, and they are many, he is well within his role. He may not be a star executive himself, any more than the coach of a boxing champion has to be an outstanding boxer in his own right. But he is the expert in thinking techniques, and he can, by his timely advice, bring out the best that is in the executive who is matching his wits with the problems, big or small, that crowd upon him from all sides.

How did this arrangement come about? How does it work in practice? What qualifications, experience, and self-discipline does it demand? What possibilities does it offer to the profession as a whole?

It did not come about suddenly. It was a case of slow growth, both on the part of the firm and on the part of the psychologist himself. The firm has been going through an intense process of development for the

last three years. Solidly established for two generations, it has now for general manager the president's son, a young and dynamic executive, who has surrounded himself with a group of top officials whose ages vary from thirty to forty-two. Modern methods of production, cost control, and advertising have been introduced. When the psychologist was called in, three years ago, there was no personnel department. There has been one for two years now, and it is functioning efficiently. There are about one thousand employees in the factory and the office. The factory is unionized. The sales force covers all Canada.

While evaluating key personnel and helping in the organization of the personnel department, the consulting psychologist happened to help the general manager in the study of a few problems where policies and personalities were intertwined in a living skein. The general manager became extremely interested in his own personal development as an executive and he suggested that the same training and guidance be given to his top men, individually or in a group. This led us to set up a rather original course of executive training, based on General Semantics and on the findings of the Research Centre for Group Dynamics. This course had to be short, down-to-earth, and easily applicable to practical problems. It was. At the end of six lecture-discussions of two hours each, which were spread over three months and interlarded with individual consultations with the trainees, we reached a point where the seven top men who took the course acknowledged that they had been helped considerably in four areas, in the following order: (a) personal maturity and emotional control; (b) skill in communication to subordinates; (c) skill in research and agreement on practical problems; (d) skill in handling discussion groups. This course was followed up by monthly discussions of current problems, where the techniques of General Semantics and action research were more thoroughly mastered and consistently applied. At the suggestion of the first group, the course is now given to executives of the next lower level, including the president of the factory labour union.

There is another consideration that caused the general manager and the psychologist to acknowledge that a continuous and close relationship was imperative. Psychology and General Semantics can be presented to an organization in a relatively short time, in the same way as production control, flexible budgeting, or job evaluation can be established on paper by management engineers who come in, revamp the whole system, and go away—to come back ten years later and start all over again. Their costly reports are filed away, together with the evaluation reports made by the psychologist. This material is too seldom put into full use; it quickly becomes outdated, and the former unscientific habits of doing things, of promoting and transferring personnel, remain

control. We are dealing here with the well-known mechanism of forgetting, with the extinction of conditioned reflexes that are not reinforced occasionally. Psychology and General Semantics are a matter of learning new responses to familiar situations, they are a matter of replacing common-sense patterns of thinking-feeling by scientific views and devices. This takes supervised practice. It calls for the repeated and timely intervention of the trainer who remains in contact with the changing situation, makes people sensitive to problems as they arise, suggests the application of the new disciplines when and where they are likely to give definite results, and eventually makes everybody feel that it takes less time, money, and effort to apply the new methods than to revert to the trial-and-error hunches of plain common sense.

The application of psychological methods is itself a powerful change-agent. After a few months the situation is altered to such a point that the psychologist may have to readjust his selection criteria, to suggest more advanced practices in training, to advocate new policies that his own work has made imperative. Once you have started an overall development, you must keep in step with it.

We may sum up by saying that management realized that industrial psychology without a psychologist is like industrial medicine without a medical doctor, engineering without a competent engineer, financial control without a chartered accountant, a legal department without a lawyer.

You can well imagine how this close and continuous contact between the executives and the industrial psychologist has woven a multiple and diversified relationship, tantamount to a symbiosis of management and psychology. It has worked well so far. In a few other cases, the association is not quite so close, but it follows a similar pattern. My feeling is that we are here in the presence of action-research (or shall I say research-action) of the participant-observer type, full of promises for the advancement of psychology as a profession and as a science.

For the professional psychologist, it becomes a challenging and demanding task. He has to assume responsibilities in matters that involve huge amounts of money, large segments of the working force, and far-reaching policies. He cannot depend exclusively on research done in laboratories or on the experience of other practitioners that is occasionally, and alas, rarely described in journals or monographs. He has to adapt, to invent, and to create. Often he has to do it on short notice. He cannot plan his programme in detail and adhere rigorously to a carefully devised procedure. He is all things to all men, within the limited world in which he is working. God grant that, in his eagerness to help others, he does not suffer irreparable damage to his own professional soul!

Yes, his professional soul! How shall I describe it? What qualifications, experience, and self-discipline does this role require? My opinion is that the theoretical knowledge and the skill of the clinical psychologist are most important. By clinical psychology, I do not mean the art of diagnosing psychoses and psychoneuroses, and of participating in their treatment. This would help undoubtedly, and the more of it we know, the better. But I would suggest less emphasis on the pathological as such, and more attention to the normal aspects of personality development and of group dynamics. This involves the evaluation of individuals by any means we have at our disposal, particularly by the study of their life history, by a careful analysis of their present environment, and by well-conducted interviews. Tests, projective techniques, questionnaires, and inventories have a part to play, just as the physiologist's findings have in modern medicine. But they are subservient to the skill of the clinician. It is left to him to decide to what extent they are needed, and it is his responsibility to determine whether they should constitute the fundamental outline or the finishing strokes of the total picture. This clinical training also involves practical knowledge of group behaviour, skill in interpreting it on the spot, and resourcefulness in directing it along proper channels. It involves the skills described by our members in their answers to Dr. Tuckman's questionnaire: "expressing oneself well orally, getting cooperation from colleagues, meeting the public, selling their service or program to others, making good first impressions."

Let me come down to details which you may find trivial, but which have their importance when you claim to go into the world of business as a living example of sound psychology in action. The industrial psychologist cannot afford to disregard business etiquette. He must answer letters promptly, keep his appointments on time, and behave generally as an efficient executive. The absent-minded professor, the starry-eyed scientist, and the starched theorist have no place in our work-a-day world.

The industrial consultant must be familiar with the environment in which he is operating. The educational psychologist is at home in the world of schools and curricula. The vocational counsellor is expected to know what jobs are. The clinical psychologist must know physiology and pathology; he must accommodate himself to the mores of psychiatrists and medical practitioners. Similarly, the industrial psychologist should know the world of business and industry. How much of this knowledge can be acquired at college, and how much can he imbibe on the job? I am not in a position to determine this. At college, business administration is a must, I am sure. Economics, labour law, commercial law, accounting, and management engineering are extremely useful.

To become an adviser to the sales and the advertising manager, he must have studied opinion and market research, and he must know something of merchandising and distribution practices.

Back of the qualifications I have enumerated, there should be a general attitude, viewpoint, and training, which I find hard to describe without appearing to indulge in platitudinous pep-talk. I am referring to the scientific method of thinking as a way of life. A quotation from G. L. Freeman's recent book, "The Energetics of Human Behaviour," will help me convey what I have in mind:

Years of psychological writing have been devoted to the description of such total behavior functions as sensing, perceiving, emotion, and thought; but these categories have not held up well under the impact of modern experimentation and neurophysiological fact. The homeostatic viewpoint concedes only two distinctly different types of total functional activity. One covers the nondiscriminatory generalized emergency adjustments of emotion. The other covers the highly discriminatory, specifically adaptive adjustments of perception and thought. In the well-equilibrated organism, discriminative functions normally dominate. (3)

Freeman later sub-divides these highly-prized discriminative functions. One he describes as *discriminatory capacity*, the other as *discriminatory adjustment*. "Adaptive (or discriminatory) adjustment," he writes, "requires something beyond an ability to make fine sensory, perceptual, and imaginal distinctions; it implies a cognate ability on the motor side of the reaction arc as well." He considers these two abilities as independently variable, and he continues: "Clinical data would support the contention that many persons have discriminatory capacity without discriminatory adjustment." (*Ibid.*, 213.)

The research psychologist who applies the scientific method to his work in the laboratory develops a high degree of skill in discriminative capacity. If his discriminative adjustment to life situations does not keep step with his scientific training, his wife, his children, or his students may suffer. His future as a college administrator may be dim. But he may keep on functioning usefully in a limited world. The industrial psychologist is in a different situation. For him, the scientific method is not only a discipline for his work; it must be a way of life. He must develop a high skill in discriminative adjustment to people and to circumstances, in the factory, in the office, in executive conferences, and in foremen's meetings. He is constantly on the stage, as it were. There he must display the self-discipline of the practising scientist in human affairs, who makes himself felt as a man of judicious action.

What does this role of participant-observer, with cabinet status in the councils of management, offer to our profession? My answer to this question may sound to many of you like uninhibited wishful thinking,

delusions of grandeur, a Messiah complex, or something very ominous for my personal welfare. So be it!

This is the way I look at it. Social scientists in general are very much in the limelight today. I take as a sign of our growing security such pronouncements as the article by Goodwin Watson, in the *American Psychologist* of March, 1949, in which he is not afraid to discuss publicly the limitations of a manifesto on human relations to which two thousand psychologists subscribed in 1944. I take as a sign of our growing sense of responsibility to the world the very comprehensive statement prepared by the Preparatory Commission of the World Federation for Mental Health. I take as a sign of these propitious times the appointment of psychologists to the UNESCO Tensions Project, and our contribution to the defense of our democratic countries. I even take as a sign of our robust growth the public shake-up of opinion research methods stimulated by President Truman's uncommon-sense prediction. Yes, we are making headway and we are anxious to serve in the political field, and in the mental health field, as we have served in education and in vocational guidance.

But what of the field of business and industry? What of this field, where the vast majority of adult men spend the most active half of their waking life, where they labour and fight for their daily bread, for their financial security, for the means of enjoying their leisure time and of educating their children? Whether we are in a capitalist system or not, where do we require the art of managing men more immediately than in the world of work? You know, as well as I do, that many students of human affairs consider the economic power of industrial enterprises more influential on the march of events than the political power of individual nations.

I feel that we have a part to play in this world of realistic action. Business, large and small, is run by men. Labour organizations are run by men. If we claim to develop and apply the science of the behaviour of men, we must accept the challenge. Go into the world of business and industry, and you will find in it more room for psychology than you expect. It has to be; it cannot be dispensed with. But psychologists are seldom there in places where things really happen.

Unless we share the life of business and industrial leaders, help them study their problems, and learn, by co-operating with them, what goes on in their daily life, we remain on the fringe of the marching crowd. We may be ultra-scientific in dealing with problems of morale, mental health, selection, industrial fatigue, and the like, but we do not come to grips with the critical problems of the commanding group, where the mental and emotional habits of a few men have a decisive influence.

When we are accepted as full-fledged partners in the steering committees of such organizations as the International Congress of Scientific Management or their National Councils, we may say that we have reached adulthood in industrial psychology. Until then we can only report progress to our professional confrères, and go back to our tasks with the renewed purpose to strive harder in the accomplishment of our duty to the world of work.

REFERENCES

1. BERNHARDT, KARL S. "Canadian Psychology—Past, Present and Future" (*Canadian Journal of Psychology*, 1, 1947, 50-60).
2. BOIS, J. S. A. "The Psychologist as a Counsellor" (*Canadian Journal of Psychology*, 2, 1948, 114-24).
3. FREEMAN, G. L. *The Energetics of Human Behaviour* (Ithaca, N.Y.: Cornell University Press, 1948).

CANADIAN SOCIAL SCIENCE RESEARCH COUNCIL

PRE-DOCTORAL FELLOWSHIPS: The Council has received funds from the Rockefeller Foundation which enables it to offer a number of pre-doctoral fellowships. The value of the fellowships ranges from \$750 to \$1500. Candidates must have completed at least one year's post-graduate work, preferably two years. Other things being equal, preference in awarding fellowships shall be given to candidates who thereby will be enabled to complete their post-graduate programme. Application forms may be obtained from the Secretary of the Council, Dr. John E. Robbins, 166 Marlborough Ave., Ottawa, Ont., and must be submitted before January 1st, 1950.

CHANGING TEACHERS' ATTITUDES¹

JOSEPH E. MORSH

University of British Columbia
and

E. MAVIS PLENDERLEITH

Provincial Child Guidance Clinic

IN 1928 Wickman (6) published the results of an investigation of children's behaviour and teachers' attitudes which he had commenced in 1924. In response to his request 27 Cleveland public school teachers submitted reports of 185 separate items of undesirable behaviour which fell into seven groups: violations of general standards of morality and integrity, transgressions against authority, violations of general school regulations, violations of classroom rules, violations of school work requirements, difficulties with other children, and undesirable personality traits.

The teachers appeared to be most aware of problems that affected the child's application to school tasks, and were more sensitive to overt types of behaviour and aggressive personality traits than they were to personal problems of the child which did not interfere directly with the teaching situation. Thus, behaviour problems were observed to occur more frequently in boys than in girls. The Cleveland teachers considered 41 per cent of their boys and 62 per cent of their girls, that is, approximately one-half of their pupils, to be exceptionally well adjusted. Forty-nine per cent of the boys were reported as having minor personality difficulties and 10 per cent were considered as having serious behaviour problems. On the other hand, only 35 per cent of the girls were thought to have minor difficulties and 3 per cent grave maladjustments.

The less active, more compliant, obedient, truthful, docile, amenable behaviour of the girls was preferred to the aggressive, independent behaviour of the boys. The problem child was identified as the one who was antagonistic to authority, who did not conform to classroom order and routine, who did not make the expected application to school work, or who violated the teachers' standards of integrity. The purely personal problems of children which did not frustrate or impinge upon the teacher were not identified as maladjustments. The halo effect was clearly shown. Children who exhibited problems of habitual lying, stealing, and disobedience were reported to show lack of interest in their work. The habitually shy and retiring children, on the other hand, were not regarded by teachers as serious problems in their application to their studies.

¹A preliminary report of this study was presented at the Annual Meeting of the Canadian Psychological Association in Winnipeg, May 1948.

As a follow-up of the preliminary Cleveland study, Wickman secured ratings on the seriousness of 50 typical behaviour problems from 511 teachers in 13 elementary schools in Cleveland, Minneapolis, Newark, and New York City. These teachers clearly indicated their belief in the greater seriousness of problems relating to sex, dishonesty, disobedience, and failure in application to school work as compared with the withdrawing, recessive personality disorders. This outcome was observed both in the teachers' evaluation of the degree of difficulty experienced in coping with the problems, and in rating the problem behaviour in the abstract.

Again, problems which transgressed the teacher's moral sensitiveness and authority or frustrated the teacher in the performance of her job were considered more serious than problems which affected the welfare of the child. Compliant, submissive, dependent behaviour was judged more desirable to the teacher than aggressive, experimental, independent behaviour.

Ratings were next secured from 30 mental hygienists, composing the clinical staffs of the Child Guidance Clinics in Cleveland and Philadelphia and the Department of Child Guidance in Newark. The clinicians included psychiatrists, psychologists, psychiatric social workers, and visiting teachers. The mental hygienists reversed the position of the teachers. They considered unsocial forms of behaviour most serious, and discounted the importance of anti-social conduct. In books and journal articles that have appeared since Wickman's original study, attention has been drawn to this enlightened attitude of the clinicians as compared with that of the teachers. The fact is usually ignored, however, that the differences in directions given by Wickman to the teacher and clinical groups rendered any comparison of their attitudes grossly misleading.

The teachers were directed to respond to the immediate problem; the significance of the present behaviour upon the future development of the child was not raised. Furthermore, the teachers were to think of the seriousness of the problem in terms of the difficulties produced by the problem, and the effort which must be exerted towards its modification. In order to obtain what Wickman calls unrationalized reactions, the teachers were instructed to make their ratings as rapidly as possible, a time limit being set for completion of the rating blank.

The mental hygienists, on the other hand, were directed to rate the significance of the problem in terms of its effect on the future of the child. The importance of the behaviour problem was emphasized rather than its consequences or undesirableness. They could take as

long as they wished to give "intellectually controlled and evaluated" responses which reflected their professional training.

Thus, in Wickman's study, the two experimental groups were asked to do different things. The teachers were required to indicate which forms of behaviour interfered with the carrying on of the job of teaching, while the clinicians were asked to designate which problems were bad for the child. The direct comparison made by Wickman and quoted by subsequent writers of the attitudes of teachers with those of the mental hygienists on the basis of the Wickman study is scientifically untenable.

In general, however, other studies have tended to confirm Wickman's findings. A group of educational "specialists" studied by Martens and Russ (4) agreed more closely with a teachers' group than they did with a group of mental hygienists, although they had been directed to rank problems in terms of seriousness for the future life of the child.

Stogdill (5), who investigated the attitudes of 110 parents, 45 college students, and 50 authorities in child guidance, found that students and parents were in close agreement as to the undesirability of certain traits, but both disagreed with mental hygienists. The latter, as Wickman had reported, emphasized behaviour indicative of maladjustment, while the parents and students, like Wickman's teachers, indicated breaches of discipline or offences against moral taboos as most undesirable forms of conduct.

MacClenathan (3), using a group of teachers, a group of mothers who had had some child study courses, and a group of unselected mothers, obtained ratings on the most serious and the most frequent types of misbehaviour. He noted the tendency of each group to rank as most serious those behaviour patterns which interfered most with the smooth functioning of its own particular affairs.

As Loutitt (2) points out, groups which have the closest day-by-day contact with children designate the behaviour that interferes with their authority, progress, ideals, or beliefs, as problem behaviour. Mental hygienists who do not have close day-to-day contact recognize the seriousness of behaviour which does not interfere with routine.

A preliminary survey dealing with 28 teachers in two British Columbia high schools was conducted in 1947 by Allan and Bargas (1). They found great individual differences in the rating of behaviour problems; some teachers were consistently severe in judging all misbehaviour while others were lenient. Some teachers had difficulty rating such problems as "depressive behaviour" and "interrupting lessons," as they felt the need of more specific definition because of the ambiguity in the

problem designation as given. Allan and Bargas on the whole, however, found the results in essential agreement with Wickman's findings.

That teachers in British Columbia schools should have the same attitudes today as teachers had twenty-five years ago in cities in the Eastern United States seemed rather unexpected, in view of the emphasis during recent years on mental hygiene. The problem so intrigued the co-author of this paper, that in the spring of 1948 she undertook a study of the attitudes of teachers in British Columbia that would compare in scope with Wickman's original study.

The chief objectives of this study were to obtain a quantitative measurement of the average British Columbia teacher's attitude toward the seriousness of specific behaviour problems, to compare the rank-order ratings of certain groups of British Columbia teachers with one another and with the rank-order ratings obtained by Wickman's teachers and clinicians, and to ascertain significant differences in the rating of problems.

The questionnaire used with the British Columbia teachers consisted of the 50 problems listed by Wickman in his original survey as shown in Table II, plus four additional items. These four items were appended because, in the opinion of the writers, "lack of initiative" and "discontentedness" were inadequately covered in the Wickman questionnaire, and because "selfishness" and "poor sportsmanship" were included by Wickman as a single problem, whereas the writers thought they might well be separate problems. The directions used were exactly the same as Wickman's. The teachers were asked to read the complete list of behaviour items. They were then required to indicate the degree of seriousness or undesirability of each behaviour item by making a stroke on the horizontal line opposite each item as in the example given:

How serious (or undesirable) is this behaviour in any child?

	Of no consequence	Of only slight consequence	Of con- siderable difficulty	An extremely grave problem
Tardiness	↑	↑	↑	↑
Truancy	<div style="display: flex; align-items: center; justify-content: space-between; height: 40px; border-top: 1px solid black; border-bottom: 1px solid black; position: relative;"> <div style="position: absolute; left: 50%; transform: translateX(-50%);">/</div> </div>			

They were cautioned to neglect the frequency of each type of behaviour, to make ratings as rapidly as possible, to consult no one in answering the questionnaire, and to rate every item on the scale. Questionnaires were mimeographed and distributed to 15 school

inspectors. Blue questionnaire forms were used for city high schools, white forms for city elementary schools, green for rural high schools, and buff for rural elementary schools. Of the 850 questionnaires distributed, 838 completed returns were received.

All incomplete returns as well as those from composite schools such as junior-senior high schools, elementary-junior high schools, and regular junior high schools were discarded from the final sampling. Only returns from senior high schools (grades 9 to 12) and from elementary schools (grades 1 to 8) were considered.

In order to obtain a sampling from city high schools, 100 questionnaires (50 from men teachers and 50 from women teachers) were chosen at random from such strictly urban high school centres as Vancouver, Victoria, New Westminster, and Burnaby. As a sampling from rural high schools, 100 questionnaires (50 from men and 50 from women) were chosen at random from high school centres in the rural areas adjacent to Abbotsford, Alberni, Courtenay, Cranbrook, Cumberland, Kamloops, Ladysmith, Lake Cowichan, Nanaimo, Parksville, Penticton, Prince George, and Prince Rupert. In a similar way a random selection was made of 200 completed questionnaires from the elementary rural schools and the elementary city schools.

The 400 questionnaires chosen were then carefully scored, the position of each stroke which indicated a given rating being measured to the nearest half-point by means of a calibrated rule divided into 20 divisions. The raw scores were totalled for each problem and the means were calculated for each group to be compared.

Composite tables and charts were assembled in order to compare the rank-order, the mean scores, and the standard deviations obtained from the ratings of the following groups:

1. 200 B.C. men with 200 B.C. women teachers
2. 200 B.C. high with 200 B.C. elementary teachers
3. 200 B.C. city with 200 B.C. rural teachers
4. 400 B.C. teachers with 511 Wickman teachers
5. 400 B.C. teachers with 30 Wickman clinicians

In order to facilitate comparison between the British Columbia results and Wickman's results, the statistical methods used were the same as those used by Wickman.

Results obtained from the several British Columbia groups are summarized in Table I for comparison with the results obtained by Wickman's teachers and clinicians.

TABLE I

COMPARISON OF VARIOUS GROUPS IN THEIR RATING OF BEHAVIOUR PROBLEMS IN CHILDREN

<i>Raters</i>	<i>Range of mean scores</i>	<i>Average score</i>	<i>Average S.D.</i>	<i>Average critical ratio</i>	<i>Coefficient of correlation</i>
B.C. high school teachers	6.4—14.8	10.0	4.1	.24	+.95±.01
B.C. elementary school teachers	6.4—13.4	9.9	4.4		
B.C. male teachers	6.2—14.0	9.8	4.2	.71	+.95±.01
B.C. female teachers	6.8—14.9	10.1	4.4		
B.C. city teachers	6.3—14.3	10.0	4.1	.26	+.97±.01
B.C. rural teachers	6.8—13.9	10.1	4.4		
B.C. teachers	6.2—14.9	10.0	4.3	5.52	+.82±.03
Wickman teachers	5.4—17.3	11.1	4.8		
B.C. teachers	6.2—14.9	10.0	4.3	4.89	+.29±.01
Wickman clinicians	0.8—17.3	9.5	3.9		

The only item which showed a significant difference with a critical ratio of 3.0 or more in rank-order between the high school and elementary school results was the problem involving "silliness, smartness, attracting attention" which showed a critical ratio of 4.80 between the two ratings. The British Columbia high school teachers rated this item forty-third among the 54 items with an average score of 8.2. The elementary teachers rated the same problem fifty-fourth with an average score of 6.4. The reason for the discrepancy between the two ratings appears to be that attention-getting behaviour in the high school is regarded as a more serious problem than it is in the elementary school. The elementary school teachers seem to have accepted the fact that many of the maladjusted younger children utilize "silliness and smartness" to attract attention, whereas the high school teachers expect their students to be able to attain social recognition by means of academic and athletic achievement.

It may be noted from Table I that the critical ratio between the

values of the items of the male and female distributions is .71 or approximately three times as great as the critical ratio between high and elementary school ratings. The chief reason for the size of this critical ratio may be found in the wide range of ratings given by the rural elementary women teachers with respect to the seriousness of all the problems dealing with sex and moral behaviour.

The scores obtained from the young rural elementary women teachers who had just completed their teacher-training courses, reflect a very tolerant attitude toward problems involving sex as compared with the scores of the older rural elementary women teachers. The severe judgment of this latter group as to the seriousness of the problems of "masturbation, heterosexual activity, enuresis, obscene notes," and the like, is indicated by their maximum ratings of these items. In a number of the discarded questionnaires, several of the rural women teachers indicated their attitude toward such problems by neglecting to enter any rating on the scale, or by writing comments in the margin. Typical notations from uncompleted questionnaires were: "What is masterbation? It isn't in the dictionary"; and "I have never come across any problems involving heterosexual activity."

In only two items, "untruthfulness" and "heterosexual activity," is there a significant difference in the ratings of men and women teachers, the critical ratios between values of these items for the two distributions being 3.4 and 4.8 respectively. The men teachers placed "untruthfulness" in seventh place (average rating 12.1) and "heterosexual activity" in eighth place (average rating 12.0) on the scale of seriousness. The women teachers, on the other hand, placed "untruthfulness" in third place (average rating 13.6) and "heterosexual activity" at the top of their list with an average rating of 14.9. The statistically significant lower rating on both these items by the men teachers appears to indicate a less condemnatory attitude toward problems of pupil-integrity and pupil-morals than is shown by the women teachers.

There was also found to be a close relationship between the rank-order of the average scores of 200 British Columbia city teachers and 200 British Columbia rural teachers ($\rho = +.97 \pm .01$). The only item which shows a significant difference between the ratings of these groups is "carelessness," where the critical ratio is 3.12. The rural teachers rate this problem as nineteenth (average rating 10.6) while the city teachers rate it as twenty-eighth (average rating 9.6) among the 54 problems rated. The difference in rating may result from differences in experience and in physical teaching conditions. The less experienced rural teachers who have several grades in a single classroom may find that carelessness in the pupil's work results in greater interference with

school routine, than do the more experienced city teachers who have more time to supervise class work.

When the average scores of 400 British Columbia teachers and 511 Wickman teachers on the fifty behaviour problems listed in the Wickman questionnaires were compared, a rho value of $+.82 \pm .03$ was obtained. This correlation is indicative of a definite but not a high degree of relationship between the two distributions. The average of the critical ratios between the British Columbia scores and the Wickman scores shows a significant difference of 5.52 points. An examination of individual items showed that there was a significant difference of opinion between the British Columbia teachers and the Wickman teachers on 36 problems as shown in Table II. The Western teachers, for instance, placed much greater emphasis upon the problems of "shyness," "unhappy, depressed," "resentfulness," "unsocialness," "sensitivity," "easily discouraged," "suggestible," and "fearfulness" than did their Eastern colleagues. In rating these items the British Columbia teachers show a definite trend towards psychologically approved mental health principles, and a leaning away from the traditional pedagogical attitudes reflected in the ratings of the Wickman teachers.

The fourteen items upon which there is no significant difference of opinion are chiefly personality problems which do not seriously interfere with the teacher's control of the learning situation. The British Columbia ratings, in an absolute sense also, indicate a greater degree of toleration than was evident in the Wickman ratings.

The relationship between the rank-order of the distribution of the 400 British Columbia teachers and the 30 Wickman clinicians is not close ($\rho = +.29 \pm .12$). When we recall, however, that the correlation between the Wickman teachers and the clinicians was negative ($-.11$), we see that the British Columbia ratings are more in accord with the ratings of the clinicians than are the ratings of Wickman's teachers. In all, 32 items show statistically significant differences between the ratings of the British Columbia teachers and the ratings of the Wickman clinicians. Of these the greatest differences are found in rating the problems dealing with "heterosexual activity," "untruthfulness," "impertinence," "destroying school material," "disobedience," "masturbation," "unsocial, withdrawing," "sensitivity," "smoking," "overcritical of others," "interrupting," "dreaminess," "whispering and notewriting."

When we compare the British Columbia teachers' rank order scores with the clinicians' scores, we find, as did Wickman, almost a complete reversal in the seriousness rating of many of the behaviour problems. The teachers rank as most serious such problems as "stealing," "hetero-

TABLE II
RATING BY TEACHERS AND CLINICIANS ON THE RELATIVE
SERIOUSNESS OF BEHAVIOUR PROBLEMS IN CHILDREN

Type of Problem	Wickman's Clinicians		Wickman's Teachers		B.C. Teachers		Critical Ratios	
	Rank Order	Mean Score	Rank Order	Mean Score	Rank Order	Mean Score	<i>B.C.</i>	<i>B.C.</i>
							<i>Teachers vs. W.'s Clinicians</i>	<i>Teachers vs. W.'s Teachers</i>
Unsocialness	1	17.3	40.5	8.3	15	10.9	9.7	7.7
Suspiciousness	2	16.4	37	9.1	31.5	9.1	9.5	0.0
Unhappy, depressed	3	16.2	22.5	11.5	10	12.1	6.0	1.8
Resentfulness	4	14.1	29	10.8	15	10.9	4.3	0.5
Fearfulness	5	14.0	36	9.7	28.5	9.7	4.8	0.0
Cruelty, bullying	6	13.5	8	14.8	3	13.1	0.5	5.3
Easily discouraged	7	13.4	22.5	11.5	23	10.2	3.2	4.3
Suggestible	8	13.3	28	11.0	26	10.0	4.9	3.0
Overcritical of others	9	13.2	45	7.9	36	8.7	6.0	3.3
Sensitiveness	10	13.1	48	7.0	33.5	8.9	5.0	6.5
Domineering	11	13.0	32.5	10.3	24.5	10.1	3.5	0.7
Sullenness	12	12.6	35	9.9	27	9.8	5.5	0.4
Stealing	13.5	12.5	2	17.0	1	14.1	2.5	10.7
Shyness	13.5	12.5	50	5.4	33.5	8.9	4.3	11.8
Physical coward	15	12.0	31	10.4	35	8.8	4.3	4.7
Selfish, unsportsmanship	16	11.8	24.5	11.3	13	11.2	0.9	0.4
Temper tantrums	17	11.7	13	13.0	21.5	10.3	1.7	7.8
Dreaminess	18.5	11.3	40.5	8.3	45.5	7.7	4.4	2.1
Nervousness	18.5	11.3	20.5	11.7	28.5	9.7	1.5	5.7
Stubbornness	20	10.9	32.5	10.3	38.5	8.4	3.4	7.5
Unreliableness	21	10.4	12	13.9	7.5	12.4	2.7	4.6
Truancy	23	10.3	6	15.6	12	11.9	2.1	10.6
Untruthfulness	23	10.3	5	15.8	4	12.9	4.6	9.7
Cheating	23	10.3	9	14.7	9	12.3	2.4	7.8
Heterosexual activity	25	9.9	1	17.3	2	13.5	4.1	10.7
Lack interest in work	26	9.6	14	12.8	19	10.5	0.9	7.8
Enuresis	27	9.2	19	11.8	37	8.6	0.8	8.7
Obscene notes, talk	28.5	8.8	4	16.6	7.5	12.4	3.9	12.3
Tattling	28.5	8.8	46.5	7.5	41.5	8.1	0.7	1.7
Attracting attention	30	8.5	39	8.5	40	8.3	0.2	0.7
Quarrelsomeness	31	8.3	27	11.1	17	10.8	3.5	0.2
Impudence, rude	32	7.6	16.5	12.2	18	10.7	4.0	5.2
Imagination, lying	33	7.5	42	8.1	47	7.1	0.3	3.0
Inattention	34	7.3	26	11.2	30	9.3	2.9	7.4
Slovenly in appearance	35.5	7.2	34	10.1	43	8.0	0.8	7.4
Laziness	35.5	7.2	16.5	12.2	20	10.4	4.3	6.6
Impertinence, defiance	37.5	7.1	7	15.0	5	12.6	8.5	7.6
Careless in work	37.5	7.1	24.5	11.3	24.5	10.1	5.1	6.2
Thoughtlessness	39	6.8	38	8.7	44	7.8	1.5	3.4
Restlessness	41	6.4	49	6.9	49.5	6.7	0.4	0.7
Masturbation	41	6.4	3	16.7	15	10.9	6.0	13.6
Disobedience	41	6.4	11	14.1	11	12.0	9.7	6.8
Tardiness	43	5.6	30	10.5	38.5	8.4	5.6	8.5
Inquisitiveness	44	5.3	43.5	8.0	49.5	6.7	1.8	5.0
Destroying school material	45	5.1	10	14.3	6	12.5	11.3	5.9
Disorderly in class	46	3.4	20.5	11.7	21.5	10.3	12.3	5.3
Profanity	47	2.9	15	12.3	31.5	9.1	11.7	9.9
Interrupting	48	2.8	43.5	8.0	45.5	7.7	10.4	1.1
Smoking	49	2.3	18	12.0	41.5	8.1	13.0	10.5
Whispering	50	0.8	46.5	7.5	48	6.8	23.1	2.8

sexual activity," "cheating," and "untruthfulness," types of behaviour that if persisted in tend to lead to delinquency and trouble with the law. The clinicians, on the other hand, stress "unsocialness," "unhappy, depressed," "suspiciousness," and "fearfulness," problems which when persistent may lead to the mental hospital.

From the mental hygienists' point of view, the average British Columbia teacher exhibits a tendency to place too much emphasis on problems dealing with violations of standards, integrity, and morals, and transgressions against regulations and authority, but too little emphasis on personal, withdrawing conduct. The British Columbia teachers, however, appear to place about the right emphasis on many of the problems dealing with violations of school work requirements, and have rated many of the recessive problems of the child much closer to the clinicians' ratings than did the Wickman teachers.

It will be recalled that the four items, "lack of initiative," "discontentedness," "selfishness," and "poor sportsmanship" were added to the Wickman list. "Lack of initiative" was rated by the British Columbia teachers as a problem that "made for considerable difficulty." It was placed thirty-first among the 54 items. The mean score of this problem was 9.9 with a standard deviation of 4.2, which placed "lack of initiative" on a par with such problems as "sullenness," "nervousness," and "fearfulness."

"Discontentedness" was found to rank in the thirty-eighth place with a mean of 8.8 and a standard deviation of 4.2. This problem was thus rated as equal in importance to "shyness," "sensitiveness," and "physical cowardice."

The results of the British Columbia teachers' ratings indicate that Wickman's term, "selfishness (unsportsmanship)," was rated thirteenth in order of seriousness, the mean rating being 11.2 (with a standard deviation of 4.2). The added item, "poor sportsmanship," was also rated at the same level of importance (with a mean of 11.2 and a standard deviation of 4.1).

On the other hand, the added item, "selfishness," without any parenthetical implication to connect it with unsportsmanship, was rated twenty-seventh in rank order with a mean score of 9.9 and a standard deviation of 4.2. This indicates that there is a significant difference between the problem of "selfishness (unsportsmanship)" and "selfishness" unconnected with sportsmanship.

The 200 British Columbia men teachers ranked "heterosexual activity," eighth in importance while the 200 British Columbia women teachers placed this problem first, thus agreeing with the situation in the original study. As may be seen in Table II, "stealing" is placed first

and "heterosexual activity" second in seriousness by the 400 British Columbia teachers. These positions were just reversed by the teachers in the Wickman study.

The ten most serious problems were the same for British Columbia teachers as they were for the Wickman teachers except that "unreliableness" ranked eighth for the British Columbia group and twelfth for the Wickman teachers (and twenty-first for the clinicians) while "unhappiness" was tenth in importance in British Columbia but was rated twenty-second by the Wickman teachers (and third by the clinicians).

The least serious of the 50 behaviour problems were designated by the 200 British Columbia teachers as "whispering," "inquisitiveness," "restlessness," and "shyness" at the bottom of the scale. The Wickman teachers ranked "smoking" and "profanity" eighteenth and fifteenth in importance while the British Columbia teachers place "smoking" on a par with "tattling" in forty-first place and "profanity" with "suspiciousness" in the thirty-first place. The Western teachers considered "thoughtlessness" and "slovenly in personal appearance" of less importance than did their Eastern colleagues because they placed them seventh and eighth from the end as compared with thirteenth and sixteenth from the end of the Wickman list. Seven behaviour problems were placed among the ten least important by both the British Columbia and the teachers in the Wickman study.

In the case of 43 items on the questionnaire, the problems were rated less severely in an absolute sense by the British Columbia teachers than they had been by the Wickman teachers, although only 36 of these differences were statistically significant. Notably significant differences that indicate a more tolerant attitude are found in the case of "truancy," "untruthfulness," "stealing," "profanity," "smoking," "obscene notes," "masturbation," "heterosexual activity," "temper tantrums," "nervousness," and "enuresis." The greatest differences were found in the attitude toward "smoking" and the sex problems of "obscenity," "heterosexual activity," and "masturbation."

It is of interest also that in the rank-order ratings, the British Columbia teachers have relegated such irritating characteristics as "whispering," "tattling," "silliness," "stubbornness," "inattention," "interrupting," "restlessness," "inquisitiveness," and "attracting attention" much nearer to their psychologically proper places in the lower half of the scale.

It would seem that the emphasis in recent years upon child psychology and upon mental hygiene is changing teachers' attitudes positively toward the recognition of signs of maladjustment and negatively

in a greater tolerance of child behaviour. Notwithstanding this relative improvement in attitude shown by the average British Columbia teacher in comparison with the average Wickman teacher, there is still much room for improvement in the application of clinical studies to the needs of the classroom. Without discounting the progress made by teachers in their attitudes toward children's behaviour problems, the results of this study show that the average British Columbia teacher has a decided tendency to adhere to the traditional teacher-attitude of the past.

In interpreting the limited acceptance by the British Columbia teachers of the psychological findings of the past two decades, it must be remembered that it is a colossal task to remove even in a generation the results of centuries of tradition, taboos, and pedagogical procedures that have grown into accepted educational theory. It must also be realized that forcing a child into a system of schooling which is contrary to his tendencies for spontaneity, purposive activity, self-realization, individual preferences, and unlimited freedom, must necessarily result in some personal conflicts which no amount of psychological planning can entirely eliminate from a public school organization.

Further research on attitudes toward child behaviour appears essential for a more complete understanding of the social, emotional, and intellectual development of the child. Several lines of approach are suggested immediately. The attitudes of parents, of social workers, of present-day mental hygienists, and of junior high school teachers should be studied. It would be interesting also to discover the attitudes of school administrators and normal school and teachers college instructors with respect to student behaviour. A valuable study might also be made of the attitude of students themselves towards their own behaviour. There is need for an investigation of the frequency of occurrence of various types of problem behaviour as reported by teachers. The relationship of the frequency of behaviour problems to their rated seriousness should also be determined.

We summarize the study of the attitudes of 400 British Columbia school teachers:

1. The British Columbia teachers in general, by their ratings of the seriousness of behaviour problems, indicate a preference for submissive and compliant behaviour on the part of the pupil rather than for aggressive, independent behaviour.

2. The teachers in this study rate as most serious those problems which transgress their moral sensibilities or frustrate them in their duties, and rate as less serious, problems of a recessive nature which affect only the welfare of the child.

3. The British Columbia teachers ranked "stealing" first and "heterosexual activity" second in seriousness. The women in this study and the Wickman teachers placed "heterosexual activity" first.

4. "Shyness" was designated by the British Columbia teachers as the least serious of the behaviour problems.

5. There is a remarkable consistency of opinion in the rank order rating of children's behaviour problems by high school teachers as compared with elementary school teachers, by men teachers as compared with women teachers, and by city teachers as compared with rural teachers.

6. Elementary school teachers tend to be slightly more tolerant of problem behaviour than are high school teachers.

7. The woman teacher is considerably more severe (in an absolute sense) than the man teacher in her rating of children's behaviour.

8. The city teacher tends to be slightly more tolerant of behaviour problems than the rural teacher.

9. The British Columbia teachers were somewhat more severe than the Wickman clinicians, but considerably more tolerant than the Wickman teachers.

10. The ratings of the British Columbia teachers agree more closely with the clinicians ($\rho = +.29 \pm .012$) than did those of Wickman's teachers ($\rho = -.11 \pm .14$).

11. The British Columbia and Wickman teachers agree fairly closely in attitude ($\rho = +.82 \pm .03$), although 35 problems show a significant difference of opinion.

REFERENCES

1. ALLAN, J. N. and BARGUS, J. W. "A Preliminary Report on Teachers' Attitudes to Children's Behaviour." (Unpublished report).
2. LOUITT, C. M. *Clinical Psychology*. Revised Edition. (New York: Harper and Brothers, 1946).
3. MACCLENATHAN, R. H. "Teachers and Parents Study Children's Behavior" (*Journal of Educational Sociology*, 7, 1934, 325-33).
4. MARTENS, ELSIE H. and RUSS, HELEN. *Adjustment of Behavior Problems of School Children*. U.S. Office of Education Bulletin no. 18, 1932. (Washington: U.S. Superintendent of Documents).
5. STOGDILL, RALPH M. "Attitudes of Parents, Students and Mental Hygienists toward Children's Behavior" (*Journal of Social Psychology*, 4, 1933, 486-9).
6. WICKMAN, E. K. *Children's Behavior and Teachers' Attitudes* (New York: Commonwealth Fund, 1928).

THE PROBLEM OF LEARNING¹

JOHN K. McCREARY

Bates College, Lewiston

THIS paper is concerned with the psychology of learning. We are seeking a clear and adequate theory of the nature of learning. We want to answer the question: how and what does an animal or human learn? We do not know the answer yet. A well-known principle of science is that the initial distinctions we make will determine the kind of systematic theory we get. This discussion notes that the organism, in its development from a one-celled egg, begins and continues as a unit. The development of mind, as Adolph Meyer long ago pointed out (3), is at one with anatomical and physiological development, not merely as a parallelism, but as a oneness with various aspects.

DIFFERENTIATING FRAME OF REFERENCE

Learning theory is troubled today because of bifurcations. Does the animal or human learn his *responses* which are progressively reinforced; or does he learn a *situation* involving "choice-points," which he perceives more or less as a whole and with purpose; or does he learn *both*? Clark L. Hull of Yale holds to the first view (1), E. C. Tolman of the University of California holds to the second (6, 7), and B. F. Skinner of Harvard, oscillating, so it seems, between these two, appears, in terms of a rather naïve operationist approach, to represent the third (4, 5). We lament the seeming necessity for such distinctions, and by no means profess that our reference to organic oneness alters the basic problem of the nature of learning.

We cannot tell at present which, of Hull's and Tolman's systems, will "swallow" the other, nor to which of these, if to either, Skinner's system will be garnered. Perhaps the last possibility will not occur and instead, the particular Gestalt concepts of the late Kurt Lewin and his school will be extended and elaborated so as to favour, if not establish, the Skinnerian view of learning. Either of these *may*, of course, proceed in its own right, independently of the other.

These abstract statements can be given specificity, and I am sure you will agree this is desirable. Such is my intention, for I think that if we were to survey the psychologies of 1949, the *livest* problem in contemporary psychology would be seen to be that of learning. Psychological researchers usually state it in terms of the nature of motivation and

¹Paper read at the Annual Meeting of the Canadian Psychological Association, Montreal, May 26-28, 1949.

reward in learning, or more simply: how or what does an animal or human learn?

But let us make more specific the abstract statements, expressing the views of the three perhaps leading research psychologists in this field, which have been mentioned.

Hull's system holds to a learning theory of which the fundamental postulate is stimulus-response association. Calling his system objective and naturalistic, Hull accepts Pavlov's principles of reinforcement, extinction, and conditioned response; in short, the law of effect, which follows from satisfaction (Thorndike), or cessation or reduction of a need (Hull). Mental processes are, for Hull, higher complications of basic physico-chemical processes. Nothing occurs in the animal organism that could not occur in a sufficiently elaborate physico-chemical robot. Attitude, intention, and sentiment, can all be accounted for, Hull believes, within his system of behaviour concepts. Consciousness too, is a phenomenon which, while its existence is not denied, is not given logical priority. It is not the answer to problems but itself constitutes a problem. We cannot simply assume it and predict from it the behaviour of animals or men.

Tolman's system presents learning as revealing objective purposiveness in behaviour. Admitting the "molecular" factors, that is, the physico-chemical and physiological data treated by Hull (and Pavlov), Tolman sees also "emergent" and "molar" factors, that is, the behaviour as observed. Molar behaviour is a phenomenon which is real in its own right, having descriptive and defining properties of its own. *What* does the animal learn? He learns the situation—the route to a goal, the means to an end. Taking a certain route, frequently the most direct route, to a reward, the animal shows purpose, knowledge, and acquaintance with a situation, granting that such experiences (or responses) are built up from trial-and-error processes of exploration. In a maze-experiment, short cuts amount to behavioural assertions of the animal's intention. When a rat dashes by a certain route to a food-goal, he is behaviourally asserting that he is taking a *good* route to the goal, instead of the one he passed. Of course, between stimulus and purposive response there are "intervening variables." Lying in the stimulus side are the "demand" variables (hunger, safety, sex, rest) and lying in the response side are the "cognitive" or the "know-how" variables (perception, recognition, motor skill). If experiment shows evidence of definite intervening variables, an acceptable theory of behaviour has been reached.

Skinner's system avoids reference to inner states of the organism,

deals only with observables, and notes simply responses emitted by the organism, though guided by external objects. Observables may be studied operationally without special regard to synapses in the nerve-centres (Hull), or purposive factors in the objective organism-environment relation (Tolman). Nevertheless, Skinner adopts the "molar" view and uses the word "reflex" in a broad sense as expressing that view. "Reflex" covers all varieties of stimulus-response *units*. We can understand why Skinner should regard his own view as similar to that of Tolman; but he thinks Tolman's maze-experiments too complicated for adducing theory and his use of intervening variables too heavy, a more sparing utilization of them being necessary for clarity. Skinner's methodology, operationism, raises the question of the proper scope of psychology. For example, is psychology simply psychometry based on strictly observable phenomena? Operationism in psychology is concerned solely with one's observations, manipulative and calculational procedures involved in making them, and logical and mathematical steps which intervene between earlier and later statements; nothing further is of psychological significance. Tolman and Hull are sympathetic with this importation of operationism into psychology, first developed by P. W. Bridgman in physics; but accepting it with Skinner, they make freer use of hypotheses and intervening concepts, which seem necessary for clarifying essentially complex processes.

A psychologist of the magnitude of Woodworth appears to favour the law of reinforcement, effect, or confirmation, which is, he thinks, a very important contribution of recent psychology, a contribution which was made, or promoted, by Hull and the group at Yale (notably Neal E. Miller). Woodworth mentions also the recent work by himself and Marquis (8). Yet he is sympathetic to the Gestalt approach.

Another psychologist, G. W. Allport, while criticizing the use of experiments with "rats and rodents" for purposes of interpreting "higher level" human phenomena, is definitely appreciative of the "emergent" and "molar" concepts of Tolman, lending support as they evidently do to his own views on ego-involvement and purposive participation.

I am perhaps telling you nothing new when I say that a confessed state of ignorance prevails among leading psychologists as to how or what an animal or human learns. At least the issues, if not alternatives, are clear, and have set the differentiating frame of reference. Does the animal learn (1) reinforced responses, which are, as Thorndike put it, "stamped in" to the nervous system; in short a series of millions of reactions or, (2) does it learn a situation, "place-learning" as Woodworth states it, involving what Tolman calls "objective purposiveness" or, (3)

does it learn both, that is, some combination of these two, inclusive of reinforced responses *and* situation, a Gestalt or "configuration," or as Skinner puts it, "a reflex" or stimulus-response unit, or even again as Kurt Lewin would have said it, a "life-space," a psychological environment, a "field?"

While the focus of attention is mainly on the differences among these theories of learning, present psychological research is not marked by neat system-building but by intensive experiments and relatively brief publications, chiefly about learning and motivation, which are, I think, very hard to understand. Nevertheless, the urge towards consistent theory never dies.

Following Thorndike, as I believe he does, Clark Hull, with his associates at Yale (notably Neal Miller), has championed the first view, that all learning is entirely reactive, being made up of reinforced nerve-responses. He believes that all observed or "molar" behaviour must be referred ultimately to physico-chemical and physiological, that is, "molecular" behaviour. Inability on our part to do this indicates simply our lack of adequately refined scientific techniques and formulae for expressing results. We must not assume anything to go on in the organism which could not be observed and represented with adequate research equipment and symbols of expression. Hull himself created a machine which, in some of the simpler processes, could "learn." Thus the view of purposive, intentional behaviour is "swallowed" by the minutiae of bodily activities when these are adequately understood and stated.

However, E. C. Tolman at California remains thoroughly devoted to the second position: that learning in animals and in men reveals objective purposiveness. Tolman is, in fact, frankly anthropomorphic in method, asking himself, as he views the behaviour of a rat in a learning-motivating situation: what would *I* do were I in the rat's place? Finding that the rat does what he thinks he himself would do, he ascribes objective purposiveness to the rat who, he thinks, may be credited with acting "intentionally." This may be seen, especially, at what he calls "choice-points," for example, in learning the quickest route to a reward in a maze.

B. F. Skinner of Harvard seems to be seeking to resolve this dilemma by saying that the terms "molar" and "reflex" are synonymous.

Kurt Lewin did not, so far as I know, consciously and deliberately devote himself to the problem of learning in the sense of calling it that; but his whole psychology, "topological psychology" he called it,² is

²*Topos*, you will recall, comes from the Greek, and means "place" or "field."

concerned with the learning functions of a living organism in its "life-space" or "field."

It is natural for psychologists to think of the problem of learning broadly, but many of them are especially interested in human experience (or responses). For the purposes of science, however, human learning and motivation are so complex as to be, at least initially, experimentally difficult, if not unmanageable. We need some comparatively simple organism, such as that of the rat, complex enough indeed, in order to isolate our problem more easily and to see whether we can discover which, if any, of the theories of learning now contending for acceptance, is correct.³ But even the best studies of animal learning which we possess will seem to many to be inconclusive. Some crucial experiment is perhaps still required, if a decision among conflicting theories is to be reached. Further, such studies raise the question, truly in embryo, that is, at a very elementary level: is animal learning the same in kind, differing only in degree, as human learning, so that any adequate theory of learning would have to build up from such data in accounting for "higher levels" of learning?

CONCLUDING CRITIQUE

You will not mind if I leave it to you to form some tentative judgments, at least, as to the theory of learning you accept, if any. Perhaps you find a view you have held confirmed, or modified, or even thoroughly changed.

However, if you will permit me some concluding generalizations, the answer to the problematic question: how or what does an animal or human learn, lies, I think, in the direction of avoiding such bifurcating conceptual tools as we have encountered, and of following those modes of study which recognize certain natural conditions. As mentioned at the beginning, the organism, in its development from a one-celled egg, begins and continues as a unit, a oneness, however we may choose to note its several aspects. Further, it is continuous with and is an expression of, the world of nature, or "field," in which its life is set. This may commit me, if I fall back into contemporary terminology, to the doctrine of some combination of reinforced responses and situation, such as is indicated in Skinner's broad use of the word "reflex," or Lewin's "field" psychology. Recent psychological writings suggest, however, that there is a certain opaqueness in "field" theory; it requires elaboration and elucidation, though this may add to the very bifurcations we seek to avoid.

³A film was shown at the meeting, made by Neal E. Miller at Yale, "Motivation and Reward in Learning." It can be obtained from the Psychological Cinema Register, Pennsylvania State College, State College, Pa.

The semantic question, so often raised nowadays, is relevant, perhaps basic, here: by the word "learning," do we refer to the reinforced reactivity of the organism, that is, its ability to be stimulated in certain ways, or do we refer to the object or objects wherein the stimulus or stimulus-potential is conceived to exist? Are we talking about the reinforced "stimulability," so to say, of an organism (what a botanist would call "irritability" in the case of plant life), or are we talking about the extra-organic (and even intra-organic) environment, from which the stimulus is supposed somehow to "come?" In short, is it not a question, of *how much* we intend to *include* in our circle of reference when we use the word "learning?" Lewin and perhaps Skinner appear to include not merely the stimulus-response patterns within the ego-structure, nor the patterns, whatever they may be, of the environmental structure, but the patterns, or "tension-gradients," of *both*, in their mutual interrelationships.

I offer in conclusion, the provocative statement of Karl S. Lashley, which best expresses my own point of view, and is reminiscent of Charles Spearman's awe and wonderment in the presence of what he called that "utterly mysterious something" and which he designated "the sensorium": "The unit of functional organization seems to be not the reflex arc . . . but the mechanism, whatever be its nature, by which *response* to a *ratio of intensities* is brought about" ((2), p. 493, *italics mine*).

REFERENCES

1. HULL, CLARK L. *Principles of Behavior, an introduction to behavior theory*. (New York: D. Appleton-Century Co., 1943).
2. LASHLEY, K. S. "Nervous Mechanisms in Learning." In C. Murchison, *A Handbook of General Experimental Psychology* (Worcester, Mass.: Clark University Press, 1934), 456-96.
3. MEYER, A. "A Short Sketch of the Problems of Psychiatry" (*American Journal of Insanity*, 53, 1897, 538-49).
4. SKINNER, B. F. *The Behavior of Organisms, an Experimental Analysis* (New York: D. Appleton-Century Co., 1938).
5. SKINNER, B. F. "The Operational Analysis of Psychological Terms" (*Psychological Review*, 52, 1945, 270-7, 291-4).
6. TOLMAN, E. C. *Purposive Behavior in Animals and Men* (New York: Century Co., 1932).
7. TOLMAN, E. C. "The Determiners of Behavior at a Choice Point" (*Psychological Bulletin*, 36, 1938, 1-41).
8. WOODWORTH, R. S. *Contemporary Schools of Psychology* (New York: Ronald Press, 1948).

THE ARNPRIOR EXPERIMENT A STUDY OF WORLD WAR II PILOT SELECTION PROCEDURES IN THE RCAF AND RAF¹

EDRO I. SIGNORI
Queen's University

ARTICLES and reports have appeared setting forth the essential features of the pilot selection procedures employed during World War II by the German (3, 5), Japanese (6), Royal (1), American (18), and Canadian (2) Air Forces. A survey of these studies indicates that only those pertaining to the RAF, USAAF, and RCAF provide sufficiently dependable evidence regarding the value of the procedures concerned for predicting achievement in flying training. Since similar evidence for the German and Japanese pilot selection systems is either lacking or is based on verbal statements from individuals interviewed by American and British investigators soon after the war, no satisfactory basis exists for evaluating them in strict scientific terms.

The present study attempts to provide further evidence regarding the scientific adequacy of the pilot selection battery employed by the RCAF during World War II, and is limited only to a consideration of its predictive significance for the three preliminary stages of training given in Canada. Moreover, it is a further aim of the study to draw separate comparisons among three distinct procedures developed by the RCAF and RAF for assessing flying ability in pilot training applicants. The procedures in question are: the RCAF Visual Link Test, the RAF "grading" procedure, and a flying instructors' rating procedure that had been experimentally employed by both services at one time or another during the war.

The data for the study are taken from a special project that was undertaken jointly by the RCAF and RAF during the period from the middle of 1943 to the end of 1944. It derives its name from the circumstance that special arrangements had to be made at the wartime RCAF station at Arnprior, Ontario, for the experimental control and administration of the RAF "grading" procedure.

SELECTION PROCEDURES

Due to limitations of space, only a bare description of the selection procedures employed on the Arnprior project can be attempted here. However, more complete accounts are given elsewhere (12), or in original articles by the various authors indicated.

¹The writer is indebted to Professor B. R. Philip, Queen's University, for reading the manuscript, to Professors R. W. B. Jackson and H. McK. Fowler of the Department of Educational Research, University of Toronto, for advice on statistical method and for the IBM sorting and tabulation of the data.

(1) *Pencil and Paper Tests:*

(a) Classification Test (1-CT²)—a common type of mental ability test, Wilson (20).

(b) Aircrew Aptitude Test (2-AAT)—a mechanical reasoning test, Ritchie (10).

(c) Code Aptitude Test (3-CAT)—a sound pattern discrimination test, (9).

(d) Educational Achievement Test (4-EAT)—a mathematics and physics proficiency test.

(e) Mechanical Aptitude Test (8-MAT)—a practical mechanical ability test, Springbett (16).

(2) *Biographical, Motivation, and Attitude Assessment Procedures:*

(a) Aircrew Information Sheet (7-R267)—Biographical data, (4).

(b) Aircrew Interview Report Form (6-R268)—motivation and attitude appraisal, Williams (19).

(3) *Psychomotor Procedures:*

(a) RCAF Visual Link Test of Flying Aptitude (5-VLT)—a ground psychomotor ability test, Jarvis (8), Jackson (7), Shagass (11).

(b) RAF "grading" procedure (9-T1) and (10-T2)—two detailed assessments of flying performance made at the end of the first 7 and 11 hours of initial flying training, in each instance by a different "grading" examiner.

(c) Flying Instructors' ratings (11-R1, 12-R2, 13-R3, 14-R4, 15-R5)—five global assessments of flying training made by the pupils' flying instructor at the end of 1½, 3, 5, 7, and 11 hours of initial flying training.

SELECTION AND TRAINING SEQUENCE

With the exception of the special arrangements at Arnprior, the experimental sample passed through the regular selection and training sequence. The stages in this process and the order in which the various testing and assessment procedures were applied, were as follows:

(a) Screening at Recruiting Centres which involved a medical examination, administration of the CT, and completion of the R267.

(b) Classification at Manning Depot which was based on the results of the medical examination, CT, R267 and, in addition, on the following tests: AAT, CAT, EAT, VLT, and R268. For experimental reasons the MAT, ordinarily employed for ground trade selection, was administered to the experimental population along with the other tests given at Manning Depot.

(c) Flying Training at Arnprior which consisted of 11 hours of flying training (two weeks) during which period the "grading" and flying instructors' assessments were made.

(d) Initial Training School (ITS)—10 weeks of ground training taken at No. 5 ITS, Belleville, Ontario.

(e) Elementary Flying Training School (EFTS)—12 weeks of ground and flying (60 hours—Tiger Moth) training which, for experimental reasons, was confined to only two of the twenty or so schools in existence at the time.

(f) Service Flying Training School (SFTS)—16 weeks of ground and flying (110 hours—Harvard) training for which the EFTS graduates unavoidably were divided unequally among nine different SFTSs.

²The numbers preceding the abbreviated titles identify the various procedures in the multiple correlation validation analyses.

THE EXPERIMENTAL SAMPLE

The original population of the Arnprior project, consisting of 385 candidates, was drawn from the general aircrew population that arrived at No. 1 Manning Depot, Toronto, from recruiting centres across Canada for classification into one of several aircrew trades. In order that the findings might have general application at the Manning Depot classification stage in the selection process, the experimental population was picked by the service to be as unselected as conditions of recruiting and manning would permit at the time, mid-1943. The significant criteria in the manning process which determined the sample were: age, physical fitness, intelligence level, preference to be a pilot, and a proportionate representation of candidates who normally would have been selected for other aircrew trades.

For validation purposes it was necessary to reduce the original sample of 385 candidates to 366 because no training data were obtained for 19 candidates who were eliminated early in the project for reasons beyond service control, namely airsickness, death in an automobile accident, imprisonment, and lengthy hospitalization for illness.

It is not known whether the application of the above-noted criteria actually resulted in a representative sample of aircrew candidates because the necessary information required for making such an evaluation is not known. Moreover, it is worth noting that, even though such information can ordinarily be provided at the end of a war, it could only have been approximated under the fluid conditions of manpower disposal that existed during wartime. From an RCAF viewpoint, the stability of normative information respecting the available manpower was considerably disturbed by the fact that the Army and Navy working independently had equal claims on the same manpower. Under such circumstances, it is questionable whether one is able during the design of an experiment of this nature to set up sufficiently stable criteria that might be used as a basis for arriving at a representative experimental population.

TRAINING ACHIEVEMENT CRITERIA AND VALIDATION PROCEDURE

The pass-fail and decile rank validation criteria employed in this study are a function of the percentages of the total marks made by the experimental candidates in the final examinations at the end of each stage of training. Because of limitations in the training data it was necessary to restrict the validation analysis to the following seven criteria:

1. ITS—decile rank criterion. For experimental reasons no pupil was eliminated at this stage of training. Hence, the validation analysis was based on the original sample of 366 cases.

2. EFTS—pass-fail criterion. All eliminees were included in an analysis based on 273 passes and 59 eliminees.

3. E and SFTS—pass-fail criterion. All eliminees were included in an analysis based on 273 passes and 93 eliminees.

4. EFTS—pass-fail criterion. Eliminees for other than flying deficiency were excluded from an analysis based on 307 passes and 35 eliminees.

5. EFTS (flying)—decile rank criterion. Eliminees for other than flying deficiency were excluded from an analysis based on 307 passes and 35 eliminees.

6. EFTS (ground)—decile rank criterion. Eliminees for other than ground school deficiency were excluded from an analysis based on 313 passes and 6 eliminees.

7. E and SFTS—pass-fail criterion. Eliminees for other than a flying deficiency were excluded from an analysis based on 273 passes and 57 eliminees.

The solution of the validation problem required first of all that the multiple coefficient for the entire battery be derived for each of the above criteria. From these coefficients it was then possible to determine which criteria were to be employed for more detailed correlation analysis. For each of the selected criteria, a number of comparisons were made between validity coefficients obtained for a smaller number of variables and the multiple validity coefficient obtained for the entire battery. In each instance, the significance of differences between multiple coefficients was determined by the formula given in Tippett (17).

In this connection, it is worth noting that the quest for a test battery which is compatible with the prediction requirements for all stages of training, and at the same time consists of only the most satisfactory minimum number of procedures, demands that the validation analysis one makes be designed with these objectives in mind. Accordingly, whenever several stages of training are involved, it is necessary in the validation analysis for any one stage of training, to take into account those procedures that might be found necessary for prediction in the other stages and areas of training. If this point is not borne in mind, the different batteries arrived at for each stage of training, considered as a whole, may not constitute the most economical combination. In the present study attention was given to considerations of scientific adequacy and economy in determining which procedures were to constitute the final battery.

At the outset of the analysis a minor problem arose regarding the choice of criteria on which the first validation analysis might be conducted. However, since the types of training given in the initial and later stages of training differ considerably, it seemed logical to assume that no difference in the final product would result if the first analysis were to be conducted in terms of the criterion that represented either the initial or the final stage of training. Hence, it was decided to conduct the several validation analyses according to the order in which

the achievement criteria arise in the training sequence. That is, the first analysis was based on ITS training, followed by validation analyses for EFTS and E and SFTS training combined.

Moreover, since four criteria of achievement were available for EFTS training, a further problem arose regarding which of these criteria were to be employed in the detailed validation analysis for this stage of training. The main issue here is whether a pass-fail criterion is to be preferred to a rank criterion for purposes of test validation. This issue was decided in favour of the "flying" and "ground" rank criteria for the reason that a rank criterion, unlike a pass-fail criterion, provides a more realistic psychological differentiation of achievement and, as such, is more in keeping with the psychological differences implied in the test battery measurements.

VALIDITY OF TESTS

Table I shows the zero order validity coefficients for each test variable on each of the seven criteria.

TABLE I

Test Variable	Criterion Number						
	1	2	3	4	5	6	7
	N=366	N=366	N=366	N=342	N=342	N=319	N=330
1-CT	.32	.03	.06	-.03	.01	.32	.02
2-AAT	.44	.23	.21	.22	.18	.36	.22
3-CAT	.12	.09	.07	.07	.09	.20	.09
4-EAT	.43	.07	.14	.01	.13	.39	.09
5-VLT	.18	.36	.41	.40	.57	.26	.47
6-R268	.16	.10	.06	.06	.09	.15	.04
7-R267	.20	.10	.14	.09	.17	.22	.01
8-MAT	.34	.17	.17	.18	.14	.37	.16
9-T1	.19	.40	.44	.36	.39	.22	.46
10-T2	.22	.36	.39	.40	.41	.27	.46
11-R1	.11	.19	.23	.14	.21	.14	.17
12-R2	.13	.31	.34	.30	.30	.14	.32
13-R3	.19	.32	.35	.30	.33	.18	.34
14-R4	.16	.35	.40	.34	.38	.18	.41
15-R5	.18	.39	.41	.36	.41	.19	.45

Table II shows the optimal multiple R validities for all procedures against each of the seven criteria.

From these tables it is reasoned that the most adequate criteria from the point of view of the test battery are those for which the highest validity coefficients obtain. Accordingly, in seeking the minimum number of procedures that are necessary for predicting success in flying training, further analysis might justifiably be limited to coefficients

TABLE II

<i>Criterion Number</i>	<i>N</i>	<i>Criterion</i>	<i>Multiple Coefficient</i>
1	366	ITS rank	Ro. 1 to 15 incl. .55
2	366	EFTS pass-fail	Ro. 1 to 15 incl. .51
3	366	E and SFTS pass-fail	Ro. 1 to 15 incl. .56
4	342	EFTS pass-fail	Ro. 1 to 15 incl. .51
5	342	EFTS flying rank	Ro. 1 to 15 incl. .62
6	319	EFTS ground rank	Ro. 1 to 10* incl. .55
7	330	E and SFTS pass-fail	Ro. 1 to 15 incl. .59

*Since the crucial test of the value of flying instructors' ratings for prediction hinges on flying criteria, they were excluded in this particular analysis, notwithstanding the fact that the R might have been slightly higher had they been included.

obtained on criterion samples no. 5 and 7. On the other hand, there is no other alternative in the case of ground training prediction, than to base the analysis on samples no. 1 and 6. Hence, the multiple coefficients obtained from these criteria were employed as the critical limiting values with which validities for various smaller combinations of procedures were compared. The results of these analyses are shown in Table III.

While various combinations of procedures were tried in each of these analyses, only the results for the final reduced batteries can be shown here. Moreover, it is worth noting that priority in the selection

TABLE III

<i>Analysis Number</i>	<i>N</i>	<i>Criterion</i>	<i>R-Total Battery</i>	<i>R-Reduced Battery</i>
1	366	ITS rank	.55	Ro. 4, 8, 6, 7 .51
2	342	EFTS flying rank	.62	Ro. 5, 7, 4 .59
3	319	EFTS ground rank	.55	Ro. 4, 8, 10, 3, 7 .53
4	330	E and SFTS pass-fail	.59	Ro. 5, 9, 10 .56
<i>Significance of differences between multiple R's in analyses Number</i>			<i>Tests of Significance*</i>	
			<i>F value</i>	<i>5% point</i> <i>1% point</i>
1			1.74	1.82 2.31
2			1.64	1.79 2.26
3			2.241	2.243 3.08
4			1.39	1.79 2.26

*For our purposes the 5 per cent point was taken as the critical point in deciding whether or not further addition of procedures to the battery should be made. With the critical limit at the 5 per cent point, it is deemed that the relatively greater importance thereby accorded to practical considerations of economy adequately compensates for the relatively less important loss in scientific accuracy.

of procedures constituting a particular battery was given to those that proved valuable for prediction on more than one criterion. If no consideration had been given to the cross-criteria prediction value of a particular procedure, a somewhat different and smaller number of procedures, namely 2-AAT, 4-EAT and 6-R268, would have sufficed for predicting achievement in ITS training. No modification, however, would have resulted for the remaining criteria.

Furthermore, it should be noted that despite the elimination of 1-CT from these analyses it would still have to be included in the final battery. This follows from the fact that it played an important part in the original screening of the sample (those with CT scores below 30 were not permitted to enlist for aircrew training). Thus, while 1-CT scores are not included in the composite prediction scores derived for the reduced batteries, the composite scores themselves are meaningful only insofar as the population upon which they are to be applied has been previously screened with regard to factors measured by 1-CT.

The elimination of the flying instructors' ratings in favour of the VLT and grading tests seems to hinge largely on the opportunities for making relatively more objective assessments with the latter. Apparently, detailed judgments of aspects of flying or psychomotor test performance yield a more valid result than do global assessments of flying performance.

It seems reasonable to conclude then, that of the ten original procedures, two might be eliminated from the battery without incurring a loss in predicting accuracy. These two are: the Aircrew Aptitude Test (2-AAT), and the flying instructors' ratings (R1, R2, R3, R4, and R5). It is worth noting that the elimination of 2-AAT from the battery to a considerable degree hinges on the fact that 8-MAT, a test ordinarily employed for ground trade selection, has been retained. The fact that these two tests overlap to a substantial extent ($r = .68$) partly explains why only one of them need be retained.

COMPARISON OF PROCEDURES DESIGNED TO MEASURE FLYING ABILITY

Although the foregoing analyses show that only two of the three flying ability assessment procedures are needed in the battery, no attempt is made therein to compare in precise terms their relative separate and combined prediction value. This was the purpose of the next analysis, and is in keeping with the second objective of this study. Accordingly, a comparison of the three procedures was made, first in terms of the separate criteria yields, and second, in terms of the relative combined yields for any two of them. In each instance, the comparison of validity coefficients was limited to only the two most significant flying criteria, namely rank standing in EFTS flying training, and pass-

fail in E and SFTS flying training. The results of the analysis concerned with individual procedures are shown in Table IV.

TABLE IV
COMPARISON OF VALIDITIES OF FLYING ABILITY
ASSESSMENT PROCEDURES

Criterion	Procedures	Validities	Code	Differences between	t* value	Significant at 1% level
Rank standing in EFTS Flying Training N-342	5-VLT	Ro. 5 .567	A	A and B	(1) 2.70	yes
	9-T1, 10-T2	Ro. 9, 10 .459	B	B and C	(2) 1.02	no
	11-R1, 12-R2	Ro. 11-15 .417	C	A and C	(3) 3.33	yes
	13-R3, 14-R4 15-R5	incl.				
Pass-fail in E and SFTS Flying Training N-330	5-VLT	Ro. 5 .472	A	A and B	(4) 1.29	no
	9-T1, 10-T2	Ro. 9, 10 .525	B	B and C	(5) 1.32	no
	11-R1, 12-R2	Ro. 11-15 .471	C	A and C	(6) obviously	no
	13-R3, 14-R4 15-R5	incl.				

*Significance tests take into account the fact that these are correlated measures.

Here it is shown that the VLT yields a significantly higher validity coefficient than either "grading" tests or flying instructors' ratings when the criterion is defined as rank standing in EFTS flying training, ("t" values no. 1 and 3). Moreover, for the same criterion, the grading assessments do not yield a significantly higher validity coefficient than the flying instructors' ratings ("t" value no. 2). On the other hand, the lack of a significant difference between the validities of all procedures, ("t" values no. 4, 5, and 6) determined from a criterion defined as pass-fail in E and SFTS flying training, implies that no procedure is really any better than another for predicting success in flying training when success is defined simply as pass-fail. The slightly higher validity in favour of the grading tests in this analysis may be attributed to chance.

In this connection, mention should be made of a discrepancy between the results shown above and those reported in several wartime studies of the same problem. However, the results for one of these studies (15) were based on incomplete training data and those for the other (13, 14) are subject to the criticism that the experimental conditions were such that it was impossible to compare the procedures on a uniform basis. Accordingly, the results reported in the present study on an individual comparison of the three procedures, are thought to be the most accurate that have appeared on this issue.

Table V shows the results of comparisons based on paired combinations of procedures.

TABLE V

<i>Criterion</i>	<i>Validities</i>	<i>R</i>	<i>Code</i>	<i>Differences between</i>	<i>F value</i>	<i>5% point</i>	<i>1% point</i>
Rank standing in EFTS	Ro. 5, 9-15, incl.	.60	A	A and B	1.06	2.25	3.09
	Ro. 5, 9, 10	.59	B	A and C	2.24	3.03	4.68
Flying N 342	Ro. 5, 11-15, incl.	.59	C	A and D	64.61	3.87	6.73
	Ro. 9-15, incl.	.48	D				
Pass-fail in E and SFTS	Ro. 5, 9-15, incl.	.58	A	A and B	2.34	2.25	3.09
	Ro. 5, 9, 10	.56	B	A and C	11.64	3.03	4.68
Flying N 330	Ro. 5, 11-15, incl.	.54	C	A and D	12.81	3.87	6.73
	Ro. 9-15, incl.	.56	D				

Here it is seen that the validity coefficient for a combination of the VLT and "grading" procedure approximates the validity for all three procedures more closely than does that for any other combination (that is, the chances for the difference not being a real one are greater than for other combinations). This statement holds for both of the significant flying criteria and is compatible with the results obtained in comparing the procedures on an individual basis. Moreover, it is seen that a more favourable result obtains when the grading or rating procedure is combined with the VLT, than when the grading or rating procedures are combined. Furthermore, there is evidence that shows the superiority of the VLT and "grading" procedures for predicting pass-fail achievement in E and SFTS flying training, a fact which could not be gleaned from the analysis based on individual comparisons. This observation is implied in the fact that the F value for a combination of VLT and "grading" is considerably smaller than the F values for other combinations.

Thus, the bulk of the evidence from both single and combined comparisons seems to point to the conclusion that the VLT and grading procedure, in that order of importance, along with the other components of the test battery, seem to be sufficient for predicting success in flying training when success is measured by the criteria employed in this study. In other words, when the test battery includes the VLT and "grading" procedure there seems to be no point in also including the flying instructors' ratings. This conclusion assumes even greater significance when it is considered that an objective use of flying instructors' ratings is only to be realized if they are assigned by flying instructional personnel who play no part in the assessment of the candidates' flying proficiency at the end of any stage of flying training. This, of course, implies that flying staffs would have to be increased beyond ordinary training requirements if the flying instructors' rating procedure were to be employed at all as a basis for selection. In view of these

considerations it seems reasonable that the flying instructors' rating procedure may very well be eliminated in favour of the more valid procedures discussed above.

DISCUSSION AND EVALUATION

Assuming that the testing procedures and criteria adequately fulfil the scientific requirements concerning the problem of reliability, and this is probably not wholly true of either in the present study, it is a truism in any prediction study that the soundness of the validation attempted hinges, to a great degree, on the nature of the criterion. Moreover, while most of the significant wartime validation studies seem to have been based on a global type criterion, that is, pass-fail or rank standing in one or several stages of training, it does not follow that because such a criterion is convenient from a practical viewpoint, it automatically fulfils the scientific requirements of the problem of validity. It is conceivable that certain procedures not found important for prediction on the basis of a global criterion may be significant predictors of achievement in limited portions of the training curriculum.

Furthermore, even if the scores for a particular procedure do not correlate at all with the accepted criterion, it is possible that the criterion itself is both unreliable and invalid. And, unless steps are taken to ensure the scientific adequacy of the criterion, there is really no firm basis for deciding whether any procedure should be eliminated from a test battery. The fact that no attempt was made to examine the scientific adequacy of the criteria employed in the present study would make the above remarks a fitting criticism of it. Perhaps different results might have been obtained had the validation analysis been based on achievement in limited portions of the training curriculum rather than on the total marks for any one or several stages of training. While these remarks undoubtedly raise many problems that ordinarily should be investigated, in the opinion of the writer it is doubtful whether the detailed criteria data of the present study are sufficiently accurate or complete to warrant a more analytical treatment. Since some difficulty was encountered in standardizing the training marks taken in global form, it is to be expected that such difficulties would be multiplied many times in standardizing the marks on individual subjects. The problem, indeed, is not so simple if due consideration is given to the variable error that arises from variations in training within and between courses in a particular school, variations between schools, and the fact that the marking or assessment of any one aspect of training in any one school involves an examining staff that is not fixed or permanent. The small experimental population, relative to the many possible sources of variation, appears to render futile a detailed study of

the type that seems necessary.

In the absence of a factorial analysis of the data, the psychological interpretation which can be given to the findings of this study naturally is limited to one of a quasi surface variety. Limited to the levels of training represented by the criteria, the nature of the sample population and the type of analysis employed, the interpretation that one is able to make probably would not greatly exceed the following: prediction of achievement in pilot training seems to depend on the measurement and assessment of a number of psychological components. These may be described as: mental ability, as measured by the CT; proficiency in solving problems related to high school physics and mathematics, EAT; mechanical facility as it relates to elementary practical mechanics and electricity, MAT; psychomotor ability as evaluated in both a ground and flying testing situation, VLT, T1, and T2; attitude toward and motivation for pilot training, R268; and a number of other unidentified and less important characteristics covered in the R267.

A different importance attaches to the foregoing components for the prediction of achievement in the various stages and areas of training represented in the study. In each instance, the nature of the criterion determines for the most part what components are important for prediction. However, this does not mean that components found unimportant for prediction in certain areas of training are therefore unimportant determiners of what makes for success in those areas of training. This seeming discrepancy may be attributed to the theoretical limitations of the achievement criteria employed in the various training analyses.

Similar studies aiming at an experimental comparison of intra-service pilot selection procedures employed during wartime are not to be found in the available literature. Whatever studies there are seem to be concerned mainly with an account of the procedures employed by a particular service. However, despite the difficulties inherent in comparisons of procedures based on such studies, it seems worthwhile to compare the present study with one reported in the USAAF Research series (18) inasmuch as it was designed to provide for the USAAF what the Arnprior Experiment was intended to yield for the RCAF. The USAAF experiment involved a much larger sample (approximately 1300 men), and its representativeness, it seems, was much broader than that resulting in the Arnprior experimental population, since the criteria that determined its composition were less restrictive and were limited to only "that the man was 18 to 27 years of age, signed the waiver form indicating acceptance of immediate assignment to flying training and passed the physical examination. The only other authorized basis for exclusion was a criminal record."

The factual results regarding the ultimate disposition of the USAAF experimental group shows that 20.2 per cent subsequently graduated from advanced training. This rate is in marked contrast to the 74.6 per cent that graduated at the comparative SFTS level of training in the Arnprior study. The multiple coefficient for the USAAF study (.69) is much higher than the comparative coefficient found in the Arnprior data (.56). However, the "real" discrepancy here is not as great as the coefficients suggest since different correlational procedures were employed in each study. The USAAF study implies that all the coefficients employed in the multiple correlation analysis are biserial *r*'s. Although this may not be true in the case of the intercorrelation coefficients, for our purpose it will suffice that it is true of the criterion *r*'s. On the other hand, the criterion *r*'s in the Arnprior study were based on the general raw score formula of Garrett (21), in which passes = 1 and failures = 0. The latter method has the weakness that validities shift with changes in pass-fail rates. Biserial validities on the other hand, are unaffected by changes in pass-fail rates, but seem to be higher than *r*'s computed by the general raw score formula. Comparisons of validities computed by the two methods, and based on uniform pass-fail rates, have been made for a few variables in the Arnprior study. These are shown in Table VI, where are shown also the biserial *r*'s for the USAAF proce-

TABLE VI

<i>Arnprior</i> <i>predictors</i>	<i>Raw score*</i> <i>formula</i> <i>validities</i>		<i>Biserial*</i> <i>validities</i>		<i>USAAF</i> <i>predictors</i>	<i>Biserial</i> <i>validities</i>
	N366	N330	N366	N330		N = 1300
VLT	.41	.47	.55	.69	General information	.51
T1	.44	.46	.54	.63	AAF qualifying examination	.50
T2	.39	.46	.50	.59	Instrument comprehension 11	.48
R1	.23	.17	.30	.25	Rudder control	.42
R2	.34	.32	.47	.48	Mechanical principles	.43
R3	.35	.34	.48	.54	Complex co-ordination	.42
R4	.40	.41	.53	.60	Discrimination reaction time	.42
R5	.41	.45	.56	.65	Spatial orientation 11	.40
					Dial-and-table reading test	.40
					Two-hand co-ordination	.36

*Arnprior validities are based on E and SFTS training; *N* = 366, includes all failures; *N* = 330 includes only failures for flying deficiency. USAAF validities were selected from analyses based on different "fail" groups because it was desired to show the highest coefficients reported for the procedures shown. The changes that occur in the USAAF validities resulting from changes in the composition of the "fail" group are all small and negligible as compared to the greater changes that occur in the Arnprior validities when the composition of the "fail" group is modified.

dures that are reported as the outstanding predictors of achievement in flying training.

Here it is seen that if comparisons are based on validities computed by the same method of correlation, certain of the Arnprior validities are higher than the highest USAAF validity. It takes an Arnprior validity of .63 to be significantly higher (at the 1 per cent level) than the highest USAAF validity of .51. This implies that the validities for the VLT, T1, and R5 derived from an analysis in which eliminees for other than flying deficiency are excluded, are significantly higher than the highest validity reported in the USAAF study. However, this must be interpreted cautiously because there may have been very real differences in the manner of defining and categorizing eliminees between the RCAF and USAAF flying training staffs. Moreover, it is worth noting that no significant difference between the highest Arnprior and USAAF biserial validity is indicated when the comparison is made with Arnprior validities derived from the complete sample, rather than the sample from which eliminees for other than flying deficiency are excluded. Since this seems to be the most unbiased basis available on which a comparison between the two studies might be made, it is probable that the difference between the multiple validities for the USAAF and Arnprior test batteries is more apparent than real. However, one cannot discount too lightly the fact that the Arnprior experiment was based on a more heavily screened initial population. Hence, the question arises whether the validities for the Arnprior battery might not have been higher had the experiment been based on a more representative applicant population. The non-existence of significant test score information for an RCAF population equal in representativeness to that employed in the USAAF study makes it impossible to correct the Arnprior validities for range restriction on the significant tests. Accordingly, a more satisfactory comparison of these two studies cannot be made and the question regarding their relative value for prediction will probably remain an unsettled issue.

As a matter of practical interest, it is worth noting the comparative total time required for testing on all of the applicable procedures in each study: USAAF (1943) pilot battery: minimum—372 minutes, maximum—444 minutes; RCAF-Arnprior Battery: minimum—409 minutes, maximum—454 minutes. The small difference in the total testing time in favour of the USAAF battery seems to be of little practical moment. In this respect, it appears that the test batteries are of relatively equal serviceability. However, it is interesting to notice that the USAAF more than the RCAF battery seems to have been concerned with the measurement of more precisely isolated psychological functions.

This feature no doubt renders the USAAF battery more flexible and useful for coping with the problems encountered in the selection of personnel for other aircrew categories.

SUMMARY

The Arnprior Experiment was a field study planned to validate the RCAF pilot selection test battery and to compare RCAF and RAF methods for assessing flying ability.

A relatively unselected sample of 366 RCAF enlisted personnel were administered a battery of ten selection procedures and sent through the regular three stages of pilot training given in Canada.

The results of a multiple correlation analysis of selection scores and seven criteria of achievement lead to the following conclusions:

1. For prediction purposes the RCAF battery compares favourably with the 1943 USAAF pilot battery, when allowances are made for differences in sampling representativeness and method of analysis.

2. The RCAF Visual Link Test of flying ability and the RAF "grading" procedures are both of value for prediction purposes.

3. Assessments of flying ability made by the pupils' flying instructor in *ab initio* flying training, have less value for predicting later training than the RCAF Visual Link Test and the RAF "grading" procedure.

REFERENCES

1. BOTT, E. A. and MYERS, C. R. "Grading," A report on pilot selection in the Royal Air Force." Air Ministry, April 10, 1945. (Copy on file, Department of Psychology, University of Toronto).

2. CHANT, S. N. F. Bulletin on RCAF selection methods. Directorate of Personnel Selection and Research, RCAF Headquarters, Ottawa, Nov. 1943. Pp. 9.

3. DAVIS, D. RUSSELL. 'German applied psychology,' BIOS trip no. 2048, Medical Research Council, Unit of Applied Psychology, Cambridge, BIOS subcommittee, 32 Bryanstone Square, London W 1.

4. Directorate of Manning Circular on Aircrew Information Sheet-Form R267, Nov. 1943. Pp. 1-3.

5. FITTS, PAUL M. "German applied psychology during World War II" (*The American Psychologist*, 1 (5), 1946, 151-61).

6. GELDARD, F. A. and HARRIS, CHESTER W. "Selection and classification of aircrew by the Japanese" (*The American Psychologist*, 1 (6), 1946, 205-17).

7. JACKSON, R. W. B. Report on reliability of the Visual Link Test. On file Personnel Research Section, RCAF Institute of Aviation Medicine, Toronto, 1942. Pp. 2.

8. JARVIS, A. E The Link Test of flying aptitude, standardization sequence of instruction authorized by DPSR. RCAF Headquarters, Dec., 1943. Pp. 24.

9. RCAF Personnel Research Staff. Study conducted on reliability of Code Aptitude Test. RCAF Headquarters, Ottawa, 1944. Unpublished.

10. RITCHIE, R. L. W. Report on the Aircrew Aptitude Test, NRC Committee

on RCAF Personnel Problems. On file Department of Psychology, University of Toronto Sept. and Dec. 1942. Pp. 5; 3.

11. SHAGASS, C. Wartime Report on RCAF Visual Link Test. On file at RCAF Institute of Aviation Medicine, Toronto, Ontario.

12. SIGNORI, E. I. "The Arnprior Experiment—An appraisal of pilot selection procedures in the RCAF and RAF." Ph.D. Thesis, University of Toronto, 1947. Pp. 1-93, Appendix, pp. i-xxiii, 1-49.

13. SIGNORI, E. I. "The effectiveness of a combination of several measures of flying aptitude for the selection of pilots" (*Bulletin of the Canadian Psychological Association*, IV, Oct, 1944, 58-60).

14. SIGNORI, E. I. The pre-flight grading assessment method, Study No. 1, Pendleton Experiment, Feb. 28, 1944. Pp. 1-11, Appendix i-xiii. On file NRC., Ottawa, Ontario.

15. SIGNORI, E. I. The pre-flight grading assessment method, Study No. 2, Arnprior Experiment, July 17, 1944. Pp. 12, Appendix. i-xiii. On file NRC., Ottawa, Ontario.

16. SPRINGBETT, B. M. Reports on Mechanical Aptitude Test, NRC Committee on RCAF Personnel Problems. On file Department of Psychology, University of Toronto, June, Sept., Oct., 1942. Pp. 4; 3; 2.

17. TIPPETT, L. H. C. *The Methods of Statistics* (Williams and Norgate, 1937). Pp. 262.

18. U.S. Army Air Forces, Aviation Psychology Program, Research Report No. 2, *The Classification Program*. (Washington, D.C.: United States Government Printing Office, 1947), 181-258.

19. WILLIAMS, D. C. Bulletin on the use of Form R268-Aircrew Interview Report Form, Dec. 1943. Pp. 1-7.

20. WILSON, D. J. "RCAF Classification Test" (*Bulletin of the Canadian Psychological Association*, IV, 1944, 63-4).

21. Further References: A number of other articles concerning the construction and validation of RCAF selection procedures by S. N. F. CHANT, J. W. A. FLEURY, C. SHAGASS, B. SPRINGBETT, R. L. W. RITCHIE, and D. C. WILLIAMS, are on file with NRC, Ottawa and/or listed in the NRC "History of the Associate Committee on Aviation Medical Research 1939-1945." Ottawa, June, 1946.

BOOK REVIEW

Individual Behavior. By DONALD SNYGG and ARTHUR W. COMBS. New York: Harper and Brothers, 1949. Pp. ix, 386. \$3.50.

THIS volume, highly praised in pre-publication comment by Carl Rogers, Gordon Allport, and Gardner Murphy, holds in its small compass the seed of what may, in later and more careful editions, turn out to be a valuable introduction to the main viewpoints in modern psychology—particularly for educators, social workers, and other appliers of the social and psychological sciences. It is a little more difficult to see in the volume the “new and systematic psychology . . . original and distinctive contribution. . .” mentioned by Rogers; or the “bringing of the whole phenomenological movement into focus” spoken of by Allport.

The book, like Gaul, *in tres partes divisa est*. The first part deals with “The Personal Approach to Behavior”; the second, “The Personal Approach Applied”; and the third, “The Personal Approach as a Method of Science.”

Two main lines of theory meet and interpenetrate in the writing of the authors: a line from the “Gestalt” school (Koffka, Köhler, Klages, von Kries, Lewin and Wertheimer); and a line from the “role,” “act,” and “ego” psychologists (beginning, one supposes, with James, Mead, and Baldwin and running out to Piaget, Krech and Crutchfield, Sherif and Cantril). This approach, in the judgment of the reviewer, marks the perspective in which, in the proximate future, a great deal of valuable insight is to be achieved, a great deal of interdisciplinary co-operation effected, and a great deal of theoretical clarification attained. It is here that the cultural anthropologist, the “sociologically” oriented psychologist, the “individually” oriented psychologist, and the psychiatrist (the theorist of “psychosocial medicine”) may fruitfully meet. This kind of a meeting of minds this book rather signally fails to bring off.

The failure to do so furnishes an *illustration* of the kind of point that the authors persistently miss: the connection between the culture or sub-culture of the individual in question, and the particular whole that emerges for him in his perception of anything (including his psychological frame of reference). In this case, the authors’ sub-culture is, presumably, primarily that of traditional departments of psychology; and, perhaps for that reason, accounts of collective phenomena such as culture seem to them in some strange manner opposed to their frame of reference, instead of being the background without which this frame of reference is not itself intelligible. The upshot is that they waste considerable space and wordage in attacking a suppositious “social” ap-

proach as though it treated of "average" as against "individual" people. That the authors could do so after reading George Herbert Mead merely drives home the point.

Despite this, and particularly in its "applied" section, and most particularly in its materials on education, the book will undoubtedly be found valuable. It is sufficiently valuable to lead the reviewer to hope that the authors will re-read Kardiner and Mead; and read (O singular omissions!) Dewey and Durkheim; clarify their conceptual-theoretical frame, and re-publish a new, revised, and improved edition.

JOHN R. SEELEY

University of Toronto.

ANNOUNCEMENT

PRINCETON, N.J. The Educational Testing Service is offering for 1950-51 its third series of research fellowships in psychometrics leading to the Ph.D. degree at Princeton University. Open to men who are acceptable to the Graduate School of the University, the two fellowships each carry a stipend of \$2,375 a year and are normally renewable. Fellows will be engaged in part-time research in the general area of psychological measurement at the offices of the Educational Testing Service and will, in addition, carry a normal program of studies in the Graduate School. Competence in mathematics and psychology is a prerequisite for obtaining these fellowships. Information and Application blanks may be obtained from: Director of Psychometric Fellowship Program, Educational Testing Service, Box 592, Princeton, N.J. Applications must be sent in by January 21st, 1950, and each applicant will take the Graduate Record Examination in February, 1950.

PROCEEDINGS OF THE EIGHTH ANNUAL MEETING
OF THE
CANADIAN PSYCHOLOGICAL ASSOCIATION

Montreal, May 26, 27, and 28, 1949

THE Council of the Canadian Psychological Association met on Wednesday, May 25, the day prior to the annual meeting, and again briefly the following afternoon.

The 1949 annual meeting of the Canadian Psychological Association was held at the Mount Royal Hotel in Montreal on May 26 - 28. There were 198 persons registered. On the morning of Thursday, May 26, the members were welcomed to Montreal by Mayor Houde. There followed a preliminary business session at which committee reports were tabled. The Chairmen of standing committees commented briefly on their reports, referring especially to recommendations which would be proposed at a later session.

The following papers were presented on Thursday afternoon and on Friday: H. W. Wright, Waterloo, "The Social, as Distinguished from the Behavioural Field"; J. D. Ketchum, Toronto, "Meanings, Motives, and Social Organization"; G. M. Mahoney, Montreal, "Psychological Components of Morale in an Industrial Situation"; J. Tuckman, Montreal, "Jobs and Earnings of Canadian Psychologists"; E. G. Poser, Kingston, "The Rorschach Test in Psychosomatic Research"; C. H. Haagen, Toronto, "Learning and Retention under Certain Conditions of Interpolated Tasks"; M. Mishkin, Montreal, "Word Recognition as a Function of Retinal Locus"; S. M. Jourard, Toronto, "Outgoing Energy and Social Acceptance"; D. Spearman, Edmonton, "Short-Term Directive Psychotherapy: A Case"; H. Moore, Toronto, "Personality Factors Responsible for Job Failure"; J. K. McCreary, Lewiston, Maine, "The Problem of Learning"; R. Hoyt, Montreal, "Electroconvulsive Shock and Temperature Regulation in the Rat"; H. E. Rosvold, Montreal, "Electroconvulsive Shock and Pregnancy in the Rat"; M. S. Rabinovitch, Montreal, "A 'Closed Field' Intelligence Test for Rats"; B. Hymovitch, Montreal, "Maturation and the Effects of Experiential Variation"; J. R. Rishikof, Montreal, "Electroconvulsive Shock and Test Performance of Rats"; H. Lansdell, Montreal, "Effects of Brain Injury on Intelligence of Rats"; L. H. Goldman, Montreal, "Wechsler-Bellevue and Revised Beta Scores Compared"; B. Wigdor, Montreal, "Comparison of Results Obtained by Neurotics and Psychotics on Abbreviated and Full Wechsler-Bellevue Scale"; A. F. Holmes, Montreal, "Discriminatory Powers of Test Items"; W. Dennis, Pittsburgh, Pa. "Intellectual Changes following Lobotomy"; B. Laurier, Montreal, "Le Role du test-

éclair de sondage dans la formation d'attitudes intentionnelles chez les adolescents"; G. Dufresne, Montreal, "The Analysis of a Personality"; J. M. Joly, Montreal, "La Notion d'intelligence chez Wechsler"; J. M. Beauchemin, Ottawa, "Methode d'évaluation du niveau formal au test de Rorschach"; C. Mathieu, Ottawa, "L'Usage du test Rorschach dans l'étude anthropologique d'une société paysanne"; Br. Jean-Lionel, Montreal, "L'Influence du bilinguisme sur la croissance du vocabulaire"; Br. Camille, Montreal, "Un Test de goûts basé sur les facteurs primaires de Thurstone"; L. T. Dayhaw, Ottawa, "Une Analyse des inventaires de goûts"; J. C. Lessard, Montreal, "Evaluation et représentation graphique des relations de groupe."

A number of these papers were given under the auspices of the Psychological Association of the Province of Quebec which held its annual meeting conjointly.

On the Friday afternoon following the presentation of papers, K. S. Bernhardt, Toronto, gave an account of the meetings in Paris of the UNESCO Committee on Tensions Affecting International Understanding, and W. Line, Toronto, described the work of the 1948 International Congress on Mental Health which met in London, England. The meeting was then addressed by Dr. G. B. Chisholm, Director General, World Health Organization, on the nature and significance of the World Federation for Mental Health.

The Presidential Address, which appears elsewhere in this issue of the *Journal*, was delivered on Friday evening at the annual dinner.

The President, J. S. A. Bois, Montreal, presided over the business meeting held on Saturday morning. At this session committee reports were considered and the following business transacted.

1. MINUTES

The minutes of the last annual meeting were accepted as printed in the Proceedings (*CANADIAN JOURNAL OF PSYCHOLOGY*, 1948, 2, 3, 145-52).

2. REPORT OF SECRETARY-TREASURER

(a) Membership

Present Membership (May 1, 1949)	Total	Fees paid	Fees in arrears	
			1949	1948 & 1949
Fellows and Members	154	135	14	5
Associate Members	257	166	62	29
Student Affiliates	109	62	30	17
	520	363	106	51
Honorary Life Fellows	1			
Honorary Life Members	2			
	523			

<i>Growth:</i>	<i>Membership at the time of the Annual Meeting</i>			<i>Paid-up</i>	<i>Total</i>
First	Dec.	1940	Montreal		
Second	May	1942	Toronto	80	
Third	May	1944	Toronto	123	157
Fourth	May	1945	Montreal	158	
Fifth	May	1946	Kingston	201	261
Sixth	April	1947	Ottawa	220	330
Seventh	May	1948	Winnipeg	330	473
Eighth	May	1949	Montreal	363	523

The net increase in total membership since the last Annual Meeting is 50 (10%). The increase in paid-up membership is 33 (10%).

Geographical Distribution

<i>In Canada</i>		<i>Outside Canada</i>	
Alberta	47	U.S.A.	45
British Columbia	30	United Kingdom	7
Manitoba	51	Holland	1
New Brunswick	11	Mexico	1
Nova Scotia	11	France	1
Ontario	228	Africa	1
Quebec	80		56
Saskatchewan	9		—
	<u>467</u>		

(b) Finances

(i) The following report of the Treasurer was received.

Treasurer's Report for the Calendar Year 1948:

Receipts:

Fees		\$1,907.00
Journal—Subscriptions	\$293.98	
—Advertising	96.70	390.68
Bulletin		4.25
		<u>\$2,301.93</u>

Disbursements:

Journal—Standard	\$ 600.00	
—Supplementary	281.06	\$881.06
Office Expenses:		
Equipment	384.25	
Mailing and Supplies	419.48	
Telephone and Telegraph	36.65	840.38
Secretarial Assistance		228.50
Audit 1945-6-7		25.00
Exchange (net)		15.17
		<u>1,990.11</u>
Excess of Receipts over Disbursements		311.82
Add Cash in Bank, 1st January, 1948		278.50
Cash on hand, 31st December, 1948		<u>\$ 590.32</u>

*Budget Estimate for 1949:**Receipts:*

Fees	\$2,100.00	
Journal—Subscriptions	300.00	
—Advertising	100.00	\$2,500.00

Expenses:

Journal—Standard	900.00	
—Supplementary	350.00	
Office Expenses		
Equipment	75.00	
Mailing and Supplies	350.00	
Telephone and Telegraph	50.00	
Secretarial Assistance	625.00	
Dues, International Organizations	150.00	\$2,500.00

(ii) It was explained that the first section of this report was the audited cash statement. The treasurer expressed the view that the financial position of the Association was definitely weak since budgeted expenses were scarcely adequate for ordinary activities and budgeted receipts would not likely be realized unless some 1950 fees were paid in 1949 or unless some other provision were made to increase income.

3. REPORT OF COUNCIL

(a) Election of Officers

Elected by Council: *Honorary President*: S. R. Laycock, Saskatoon.

Previously Elected: *Past President*: J. S. A. Bois, Montreal; *President*: C. R. Myers, Toronto; *Directors*: D. E. Smith, Edmonton (1948-1950); Mary L. Northway, Toronto, (1948-1950); N. W. Morton, Ottawa (1949-1951); W. E. Blatz, Toronto (1949-1951).

Newly Elected: *President-Elect*: J. D. Ketchum, Toronto; *Secretary-Treasurer*: G. H. Turner, London; *Directors*: (term expires, 1952) D. O. Hebb, Montreal; D. C. Williams, Toronto.

(Note re 1949 Mail Vote: Number of ballots mailed—152;

Number of ballots returned—84 (55 per cent).

(b) New Committees.

The Secretary reported that Council had established the following new standing committees:

- (1) Finance Committee: to advise on all matters of financial policy and to find ways and means of strengthening our financial position.
- (2) Committee on Professional Standards: to continue negotiations with the American Board of Examiners in Professional Psychology and to study and formulate standards for intermediate levels of professional qualification.

(c) *Recommendations*

Honorary Life Fellow: On recommendation of Council it was moved and seconded that G. Humphrey, *Oxford, England*, be elected an Honorary Life Fellow of the Canadian Psychological Association. (Carried)

Members: On recommendation of Council it was moved and seconded that the following associate members be elected Members of the Canadian Psychological Association: G. L. Barbeau, *Montreal*; J. M. Chevrier, *Montreal*; R. S. Devereux, *London*; Grace L. Dolmage, *Winnipeg*; G. Dufresne, *Montreal*; H. M. Fowler, *Toronto*; C. H. Haagen, *Toronto*; R. Joly, *Rimouski*; T. M. Karpoff, *Turner Valley*; P. L'Archêvêque, *Montreal*; R. B. Malmo, *Montreal*; E. J. McCracken, *Westmount*; A. Moore, *Winnipeg*; J. P. S. Nethercott, *London*; Zella J. Oliver, *Edmonton*; S. G. Shane, *Montreal*; Mrs. Rosalie Sofin, *Montreal*.

(Carried)

Next Annual Meeting: On recommendation of Council it was moved and seconded that the next annual meeting of the Association be held in Toronto about the last week in May or first week in June, 1950.

(Carried)

By-Law I: On recommendation of Council it was moved and seconded that By-Law I of the Association be rescinded. (Carried)

National Commission for UNESCO: In keeping with action recommended by Council it was moved by Bernhardt and seconded by Ketchum: that the C.P.A., being the national organization of the professional psychologists in Canada, records a desire to participate in that part of the work of United Nations Educational, Scientific, and Cultural Organization, which falls within the area of its professional competence;

And that the C.P.A. therefore requests the Royal Commission established by the Dominion Government to study National Development in the Arts, Letters and Sciences in Canada to recommend that a National Commission for UNESCO be organized as soon as possible, and that the C.P.A. requests representation on this National Commission when formed;

And that a copy of this resolution be forwarded to the Rt. Hon. Vincent Massey, Chairman of the above-mentioned Royal Commission; and that if, in the opinion of the executive the preparation of a brief is desirable, it is recommended that this should be done. (Carried)

Policy on Student Papers: On recommendation of Council it was moved and seconded that papers by student affiliates be accepted for the programme of the annual meeting if sponsored by a full member and approved by the Programme Committee. (Carried)

4. REPORTS OF COMMITTEES

(1) *Membership Committee*—D. C. Williams, Chairman of the Membership Committee, had tabled his report at the opening session. It indicated that during the year the committee had reviewed and passed on to Council all applications for full membership, invited into full membership those who appeared to possess the technical qualifications, devised and given preliminary trial to a series of new application forms and finally, had submitted a Notice of Motion to amend the membership section of the Constitution. This report was duly approved by the meeting.

(2) *Canadian Board of Examiners in Professional Psychology*—J. Tuckman had previously tabled the report. It expressed complete agreement that similar standards for certification had to be set up for both Canada and the United States, and the general feeling that, since the American Board of Examiners in Professional Psychology had the resources and the machinery to certify psychologists, these facilities should be used if at all possible. It then described the negotiations which had been carried on with the American Board concerning the eligibility of C.P.A. members for examination and outlined changes in the C.P.A. constitution which seemed indicated. It was the recommendation of the Board that there should also be an intermediate level of certification requiring an honours B.A. or B.Sc. in psychology, plus further academic training and field experience under adequate supervision. On motion the report was received by the meeting. Following discussion of the Board's recommendations, it was moved by Tuckman, and seconded by Webster, that certification by the American Board of Examiners be accepted as the standard for Canadian Psychologists, provided that certain modifications can be made to meet our needs. (Carried)

The meeting then took action to disband the C.B.E.P.P. and to establish a committee with instructions to carry on negotiations with the A.B.E.P.P. and with power to decide on the standards for intermediate levels of certification. The meeting recommended to the committee that the 1947 Report of the Committee on Certification form the basis for their decisions concerning standards.

(3) *Committee on the Teaching of Psychology*—The report of this Committee had been tabled at the opening session by the Chairman, R. H. Shevenell. It recorded in summary form the responses, obtained from Departments of Psychology, to an eighteen-item questionnaire concerning graduate training in Psychology in Canadian universities. It included facts about staff, courses, student enrollment etc., and also the opinions of respondents concerning such problems as the content

of courses and the degree of specialization desirable. The report was accepted on the understanding that it might be amended to include additional data.

(4) *Committee on Publications*—The report, previously tabled by the Chairman, K. S. Bernhardt, dealt with the increased costs of publication and the necessity of arranging a new financial agreement with the University of Toronto Press requiring a greater contribution by the C.P.A. The Committee commended the work of the Editor and Assistant Editor, Dr. J. A. Long and Miss K. M. Hobday, and recommended their re-appointment for 1950. This recommendation was approved by the meeting which also authorized the Committee to provide up to twenty copies of each issue for European universities or institutes. The meeting also passed a resolution that in future a report of the Editorial Board of the *Canadian Journal of Psychology* be included in the report of the Publications Committee.

(5) *Committee on the Counselling of University Students*—The Chairman, W. H. D. Vernon, reported that in its first year the Committee had set out to discover the extent and nature of the counselling being done on university campuses across Canada. A survey was made by questionnaire and the results summarized in the report which he distributed. It was concluded that a serious lack of adequate student counselling and personnel services existed across Canada. The report was accepted by vote of the meeting.

5. FURTHER BUSINESS

(1) *Amendments to Constitution*: A notice of motion to amend Article III (membership) of the Constitution of the Canadian Psychological Association had been submitted in writing by Williams and Springbett and circulated by mail to the membership at least a month before the annual meeting. After considerable discussion the following motions were put to the vote:

A. That the final sentence of Section 1, Sub-section (c) be deleted.

(Carried)

B. That Section 1, Sub-section (a) be deleted and the following substituted:

(a) *Fellows*—Fellows may be nominated by individual members of the Council and of the Membership Committee. Such nominations must be submitted to the Secretary-Treasurer in writing by March 1 of any year. Election as a Fellow shall be made by unanimous ballot vote of Council.

(Carried)

C. That Section 1, Sub-section (b) be deleted and the following substituted:

(b) *Members*—Members may be elected at each Annual Meeting of the Association. Application for membership must be made to the Secretary-Treasurer by March 1 of any year. Qualifications for membership shall be:

- (i) Associate Membership in the Association for at least one year; and
- (ii) either possession of a post-graduate degree in psychology (M.A. or Ph.D. or their equivalents), or possession of a Ph.D. (or equivalent) in a related field with the minor in psychology, or possession of a post-graduate degree in a related field together with subsequent distinguished work and/or research in the field of psychology.

Applicants shall submit an application form in duplicate, one to each of two sponsors, who will make an appraisal of the candidate, and sign and forward the application to the Secretary-Treasurer by March 1 of any year. Such sponsors must be Members or Fellows of the Association.

Applications will be considered by the Membership Committee, who will make recommendations on each case. Election to membership, however, shall be by a majority decision of the Council. (Carried)

(2) *World Federation for Mental Health*: It was moved by Myers and seconded by Mailloux that the C.P.A. apply for membership in the World Federation for Mental Health. (Carried)

(3) *Professional Ethics*: It was moved by Turner and seconded by Tuckman that the following become By-Law I of the Association:

(a) Any Fellow, Member, Associate, or Student Affiliate, may be expelled for cause by an affirmative vote of two-thirds of the members present at any annual business meeting. Such vote shall be taken only upon recommendation of the Committee on Scientific and Professional Ethics, after that Committee has given the Member or Affiliate an opportunity to appear before it to answer the charges against him, and after the Committee's recommendations have been reviewed and approved by the Council.

(b) A Committee on Scientific and Professional Ethics shall be formed consisting of five Members or Fellows elected for staggered terms of five years. Election to this Committee shall be by vote of members present at the Annual Meeting on nomination by the Council.

It shall be the duty of this Committee to receive and investigate complaints of unethical conduct of Fellows, Members, Associates, and Student Affiliates; to endeavour to settle cases privately; to report annually to the Annual Meeting on types of cases investigated with specific mention of difficult or recalcitrant cases; to recommend to the Council disciplinary action to be taken by the Association when in the Committee's judgment such action is justified and desirable; and to formulate from time to time rules or principles of ethics for adoption by the Association. (Carried)

Appreciation for the fine work of the Committee on Arrangements and Planning was expressed by members and embodied in a warm vote of thanks. The meeting was then turned over to and adjourned by the new President.

GORDON H. TURNER,
Secretary-Treasurer

CONSTITUTION OF THE
CANADIAN PSYCHOLOGICAL ASSOCIATION
(as amended up to June, 1949)

ARTICLE I

Name

1. There is hereby established a society, to be known as the "Canadian Psychological Association" (hereinafter referred to as "the Association").

ARTICLE II

Object

1. The object for which the Association is established is to promote, by teaching, discussion, and research, the advancement and practical application of psychological studies in Canada.
2. In pursuance of this object, the Association shall:
 - (a) Receive, hold and use all money and other property subscribed or in any other manner acquired;
 - (b) Hold meetings at the times and in the manner hereinafter described.
3. It may also:
 - (a) Issue such publications as may from time to time be considered feasible;
 - (b) Render such assistance as it properly can to governments and other organizations concerned with Education, Health, Administration of Justice, Industry, National Defence, and other social and national problems;
 - (c) Include any other activities that may be considered to forward the objects of the Association.

ARTICLE III

Membership

1. Membership in the Association shall consist of the following classes:
 - (a) *Fellows*. Fellows may be nominated by individual members of the Council and of the Membership Committee. Such nominations must be submitted to the Secretary-Treasurer in writing by March 1 of any year. Election as a Fellow shall be made by unanimous ballot vote of Council.
 - (b) *Members*. Members may be elected at each Annual Meeting of the Association. Application for membership must be made to the Secretary-Treasurer by March 1 of any year. Qualifications for membership shall be:
 - (i) Associate Membership in the Association for at least one year; and

- (ii) either possession of a post-graduate degree in psychology (M.A. or Ph.D. or their equivalents), or possession of a Ph.D. (or equivalent) in a related field with the minor in psychology, or possession of a post-graduate degree in a related field together with subsequent distinguished work and/or research in the field of psychology.

Applicants shall submit an application form in duplicate, one to each of two sponsors, who will make an appraisal of the candidate, sign and forward the application to the Secretary-Treasurer by March 1 of any year. Such sponsors must be Members or Fellows of the Association. Applications will be considered by the Membership Committee, who will make recommendations on each case. Election to membership, however, shall be by a majority decision of the Council.

- (c) *Associate Members.* Application for associate membership, sponsored by a Member or Fellow of the Association may be made at any time to the Secretary-Treasurer of the Association by persons who holds a university degree based in part on psychological study or who are actively interested in psychology as a science or profession.

- (d) *Honorary Life Members.* Fellows and Members of the Association on their retirement, may, on recommendation of Council, be continued as Fellows or Members without payment of fees and be known as "Honorary Life Fellows" or "Honorary Life Members."

- (e) *Student Affiliates.* Application for acceptance as Student Affiliate, sponsored by a Member or Fellow of the Association, may be made at any time to the Secretary-Treasurer by graduate or undergraduate students who are enrolled in a recognized university and who are engaged in the study of psychology.

2. Only Fellows and Members shall be eligible to vote or hold office in the Association.

3. Persons who have not paid their fees for two consecutive years shall be deemed to have resigned.

ARTICLE IV

Officers

1. The officers of the Association shall comprise the Honorary President, the President, the Past President, the President Elect, the Secretary-Treasurer, and six Directors. These shall constitute the *Council*. In the event of the absence or incapacity of the President, the remaining members of the Council shall elect a President *pro tem*. The President of an Affiliated Society or his delegated representative shall be ex-officio a member of the Council.

2. The duty of the Council shall be to forward the objectives of the Association, and when necessary to act on its behalf; to arrange for the nomination and election of officers, fellows, and members; and to make recommendations concerning policies. The Council shall meet at least once a year and shall report its activities to the Association as a whole, preferably at the Annual Meeting.
3. The President, Past President, President Elect, and Secretary-Treasurer shall be the *Executive* of the Association.
4. The President, President Elect, and Secretary-Treasurer shall be elected annually. Two Directors shall retire each year and two new Directors shall be elected each year for a term of three years (It is understood that as far as possible the Directors shall be representative of the whole of Canada.)
5. The Honorary President shall be elected annually by the Council of the Association.

ARTICLE V

Fees

1. The annual membership fees for all classes of members shall be determined from time to time in accordance with Association needs, on recommendation of Council, by mail vote of the Fellows and Members of the Association.
2. The annual membership fee shall include subscription to the JOURNAL of the Association.

ARTICLE VI

Meetings

1. An Annual Meeting of the Association shall be held on a date and at a place recommended by the Council and approved by a majority of the Fellows and Members of the Association present at the previous Annual Meeting.

ARTICLE VII

Committees

1. A special committee shall be appointed by the Council to make the arrangements necessary for the Annual Meeting. At least one member of this committee shall be resident at the centre at which the meeting is to be held.
2. A Programme Committee shall be appointed by the Council to arrange a programme of papers and discussions at the Annual Meeting.
3. Standing and Temporary Committees may be appointed by the Council as circumstances require. Such Committees shall report on their activities at the Annual Meeting of the Association.

ARTICLE VIII

Amendments

1. Any Fellow or Member of the Association may propose an amendment to the Constitution by sending to the Secretary-Treasurer a Notice of Motion in writing at least two months before the Annual Meeting at which the amendment is to be made. This Notice of Motion must be signed by the mover and the seconder, both of whom must be Members or Fellows of the Association. Such Notice of Motion must be published in the JOURNAL or circulated by mail to the membership at least one month before the Annual Meeting. The amendment shall be adopted or rejected by a majority of the Members and Fellows present at the meeting.

ARTICLE IX

Regional Societies

1. Regional Psychological Societies may apply for affiliation with the Association. Such applications shall be made to the Secretary-Treasurer and considered by the Council. The Council shall recommend to the Annual Meeting of the Association the action to be taken, but applications shall be accepted or rejected by a majority vote at the Annual Meeting.

BY-LAW I

1. (a) Any Fellow, Member, Associate, or Student Affiliate, may be expelled for cause by an affirmative vote of two-thirds of the members present at any annual business meeting. Such vote shall be taken only upon recommendation of the Committee on Scientific and Professional Ethics, after that Committee has given the Member or Affiliate an opportunity to appear before it to answer the charges against him, and after the Committee's recommendations have been reviewed and approved by the Council.
- (b) A Committee on Scientific and Professional Ethics shall be formed consisting of five Members or Fellows elected for staggered terms of five years. Election to this Committee shall be by vote of members present at the Annual Meeting on nomination by the Council. It shall be the duty of this Committee to receive and investigate complaints of unethical conduct of Fellows, Members, Associates, and Student Affiliates; to endeavour to settle cases privately; to report annually to the Annual Meeting on types of cases investigated with specific mention of difficult or recalcitrant cases; to recommend to the Council disciplinary action to be taken by the Association when in the Committee's judgment such action is justified and desirable; and to formulate from time to time rules or principles of ethics for adoption by the Association.

CANADIAN PSYCHOLOGICAL ASSOCIATION

1949-1950

COUNCIL

Honorary President, S. R. LAYCOCK (Saskatoon)

EXECUTIVE

President, C. R. MYERS (Toronto)

Past President, J. S. A. BOIS (Montreal)

President Elect, J. D. KETCHUM (Toronto)

Secretary-Treasurer, G. H. TURNER (London)

DIRECTORS

D. E. SMITH (Edmonton)

W. E. BLATZ (Toronto)

MARY L. NORTHWAY (Toronto)

D. O. HEBB (Montreal)

N. W. MORTON (Ottawa)

D. C. WILLIAMS (Toronto)

EX OFFICIO MEMBERS OF COUNCIL

R. VINETTE,

President, Psychological Association of the Province of Quebec

D. C. G. MACKAY,

President, British Columbia Psychological Association

N. W. MORTON,

President, Ontario Psychological Association

CANADIAN JOURNAL OF PSYCHOLOGY

THE JOURNAL OF THE CANADIAN PSYCHOLOGICAL ASSOCIATION

Editor: JOHN A. LONG

Assistant Editor: KATHLEEN M. HOBDAY

Consulting Editors:

E. S. W. BELYEA (*British Columbia*); J. TUCKMAN, R. VINETTE (*Quebec*);
W. G. SCOTT (*Ontario*); W. H. D. VERNON (*Maritimes*)

MEMBERSHIP COMMITTEE

D. E. SMITH, Edmonton (<i>Chairman</i>)	W. R. N. BLAIR, Ottawa
MARION E. GRANT, Wolfville	C. H. HAAGEN, Toronto
J. D. MACLEAN, Saint John	J. C. SAWATSKY, Toronto
G. BARBEAU, Montreal	LEOLA E. NEAL, London
E. C. WEBSTER, Montreal	B. M. SPRINGBETT, Winnipeg
S. R. LAYCOCK, Saskatoon	

COMMITTEE ON THE TEACHING OF PSYCHOLOGY

D. O. HEBB, Montreal (<i>Chairman</i>)	E. I. SIGNORI, Vancouver
E. S. W. BELYEA, Vancouver	L. T. DAYHAW, Ottawa
D. E. SMITH, Edmonton	MRS. B. A. MILNER, Montreal
C. H. HAAGEN, Toronto	

COMMITTEE ON PUBLICATIONS

K. S. BERNHARDT, Toronto (*Chairman*)
KATHLEEN M. HOBDAY, Toronto (*Secretary*)
D. C. WILLIAMS, Toronto

COMMITTEE ON THE COUNSELLING OF UNIVERSITY STUDENTS

W. H. D. VERNON, Wolfville (*Chairman*)
(With power to add)

FINANCE COMMITTEE

W. R. WEES, Toronto (<i>Chairman</i>)	J. S. A. BOIS, Montreal
H. B. SPAULDING, London	F. R. CLARKE, Montreal
O. E. AULT, Ottawa	

COMMITTEE ON PROFESSIONAL STANDARDS

J. TUCKMAN, Montreal (<i>Chairman</i>)	H. MOORE, Toronto
K. S. BERNHARDT, Toronto	N. W. MORTON, Ottawa
N. MAILLOUX, Montreal	

C.P.A. REPRESENTATIVE ON THE CANADIAN SOCIAL SCIENCE RESEARCH COUNCIL

R. B. LIDDY, London

CANADIAN PSYCHOLOGICAL ASSOCIATION MEMBERSHIP LIST

SEPTEMBER, 1949

- (S)* Abbott, William Edward, 130 Waterloo St., Winnipeg, Man.
- (A) Abraham, Nelson William, B.A. (Agra) 1938, M.A. (Nagpure) 1942. 89 Charles St. W., Toronto, Ont.
- (S) Acal, Alice, B.A. (Toronto) 1947, M.A. (*ibid.*) 1949. P.O. Box 7, Kapuskasing, Ont.
- (A) Ajello, Peter Arnott, B.A. (British Columbia) 1946. Arts 18-E, University of Colorado, Boulder, Col., U.S.A.
- (S) Alderdice, Ernest Terence, B.A. (British Columbia) 1948. Assistant, Department of Psychology, University of Toronto, Toronto, Ont.
- (M) Aldridge, Gordon J., B.A. (Toronto) 1938, Dip.Soc.Sci. (*ibid.*) 1939. Big Brother Movement, 504 Jarvis St., Toronto, Ont.
- (M) Alexander, Frances S., B.A. (Smith) 1929, M.A. (Columbia) 1931, Ph.D. (*ibid.*) 1935. Consultant Psychologist, 230 West 79th St., New York 24, N.Y., U.S.A.
- (A) Allen, Mary Graham (Mrs. Peter), B.A. (Toronto) 1943, M.A. (*ibid.*) 1945. c/o 106 Warren Rd., Toronto, Ont.
- (A) Andoff, John Evan, B.A. (McMaster) 1929. Director of Placement and Guidance, and Lecturer, McMaster University, Hamilton, Ont.
- (M) Arnold, Magda Blondien, B.A. (Toronto) 1939, M.A. (*ibid.*) 1940, Ph.D. (*ibid.*) 1942. Dept. of Psychology, Bryn Mawr College, Bryn Mawr, Pa., U.S.A.
- (A) Ashby, Margaret L. (Mrs.), B.A. (Toronto) 1938. Apt. 514, Surf Shore Hotel, 426 Surf St., Chicago 14, Ill., U.S.A.
- (M) Ault, Orvill E., B.A. (Queen's) 1924, B.Paed. (Toronto) 1928, Ph.D. (Edinburgh) 1935. Director, Personnel Selection, Civil Service Commission, Ottawa, Ont.
- (S) Aziz, Yvonne Lorainne, B.A. (Western Ontario) 1949. 1 Sarnia Rd., London, Ont.
- (A) Baker, Chester Hamilton, B.A. (British Columbia) 1946, M.A. (Toronto) 1947. 16 Scarth Rd., Toronto, Ont.
- (A) Balfour, Harry Ezra, B.A. (Queen's) 1921, M.A. (Alberta) 1924. Director of School Administration, Provincial Dept. of Education, Edmonton, Alta.
- (M) Bannerman, Lloyd C. F., B.A. (British Columbia) 1939, Inter.Cert.Ch.Stud. (Toronto) 1948, M.A. (*ibid.*) 1948. 4 Ongiara St., Centre Island, Toronto 2, Ont.
- (M) Barbeau, Gerard L., B.A. (Ottawa) 1942, B.P. (Montreal) 1942, Ph.D. (*ibid.*) 1945. Professor of Psychology, University of Montreal; 6383 - 24th Ave., Rosemont, Montreal, Que.
- (S) Bartlett, Lenore Fraser (Mrs.), 36 Waterloo Row, Fredericton, N.B.
- (A) Beattie, Dorothy Melissa, B.A. (Toronto) 1932. 21 Woodlawn Ave. W., Toronto, Ont.
- (M) Beattie, Howard Ross, B.A. (Western Ontario). Director of Guidance, Ontario Dept. of Education, Toronto, Ont.

*NOTE: (F) indicates Fellow; (M) indicates Member; (A) indicates Associate; (S) indicates Student Affiliate; (HLF) indicates Honorary Life Fellow; (HLM) indicates Honorary Life Member.

- (S) **Beauchemin, Jean M.**, B.A. (Laval) 1942, M.A. (Montreal) 1948. 39 West Blvd. Gouin, Montreal, Que.
- (S) **Bechard, Monique**, M.A. (Montreal) 1945, Ph.D. (*ibid.*) 1947. 3994 Parc La-Fontaine, Montreal, Que.
- (M) **Bédard, Onésime B.**, B.A. (Laval), M.D. (*ibid.*) L.M.C.C. (*ibid.*). 349 Daly St. Ottawa, Ont.
- (M) **Bell, Robert John Rice**, B.A. (Toronto) 1941, M.A. (*ibid.*) 1945. Assistant Supervisor, Labour Relations Section, Imperial Oil Ltd., 56 Church St., Toronto, Ont.
- (A) **Bellan, Ruth**, B.A. (Manitoba) 1941, M.A. (Columbia) 1947. Psychometrist, Suburban Schools of Winnipeg; 87 Academy Rd., Winnipeg, Man.
- (M) **Belyea, Edwin Stephens Waycott**, B.A. (Toronto) 1939, M.A. (*ibid.*) 1941. Asst. Professor, Dept. of Philosophy and Psychology, University of British Columbia, Vancouver, B.C.
- (M) **Bernhardt, Karl Schoffield**, B.A. (Toronto) 1928, M.A. (*ibid.*) 1929, Ph.D. (Chicago) 1933. Professor, Dept. of Psychology; Asst. Director, Institute of Child Study, University of Toronto, Toronto, Ont.
- (M) **Bernier, Robert E. (Captain)**, Dutch Mill Inn, Trenton, Ont.
- (A) **Bexton, William Harold**, B.A. (McMaster) 1935. Dept. of Psychology, University of Saskatchewan, Saskatoon, Sask.
- (M) **Bilodeau, Charles**, B.A. (Laval) 1927, LL.L. (*ibid.*) 1930. Dip. Econ. and Pol., Dip. Psychol. (Oxon) 1932. Dept. of Education, Province of Quebec; Dept. of Psychology, Laval University, Quebec, Que.
- (A) **Bingham, Lloyd (Inspector)**, Div. Personnel Officer, Royal Canadian Mounted Police, Province of Saskatchewan, Regina, Sask.
- (A) **Birdsall, Elliott Henry**, B.A. (Alberta) 1931, M.A. (*ibid.*) 1934, B.D. (Union Theolog. Semin., N.Y.) 1935. Minister, Central United Church; 9908 - 106th Ave., Edmonton, Alta.
- (A) **Black, James Elmo Lennox**, B.A. (Saskatchewan) 1922, M.A. (Chicago) 1937. Consultant Psychologist, Civil Service Health Division, Dept. of National Health, Ottawa, Ont.
- (A) **Blackbourne, Lorne Hamilton**, B.Sc. (Alberta) 1938. Vice-Principal and Counsellor, Lethbridge Collegiate Institute, Lethbridge, Alta.
- (A) **Blackburn, Julian Murray**, B.Sc. (London) 1928, Ph.D. (Cambridge) 1933. Assoc. Prof. of Psychology, Queen's University, Kingston, Ont.
- (A) **Blair, Patricia**, B.A. (Manitoba), M.A. (Toronto) 1948. 92 Crescent Rd., Toronto, Ont.
- (A) **Blair, William Robert Nelson (Major)**, B.A. (Alberta). Directorate of Organization, Army, N.D.H.Q., Ottawa, Ont.
- (A) **Blake, Wainwright Donald**, B.S. (St. Lawrence) 1917, M.A. (Columbia) 1931, Ed.D. (Missouri) 1942. Assoc. Professor of Psychology, Bucknell University, Lewisburg, Pa., U.S.A.
- (M) **Blanchette, Arthur E.**, B.A. (Ottawa) 1942, Ph.L. (*ibid.*) 1943, M.A. (*ibid.*) 1944, Ph.D. (*ibid.*) 1945. Information Officer, Canadian Embassy, Paseo de la Reforma, 1, Mexico D.F., Mexico.
- (M) **Blatz, William Emet**, B.A. (Toronto) 1916, M.A. (*ibid.*) 1917, M.B. (*ibid.*) 1921, Ph.D. (Chicago) 1924. Director, Institute of Child Study, and Professor of Child Psychology, University of Toronto; Director, Windy Ridge Day School; Consultant, Toronto Family Court, Toronto, Ont.
- (A) **Blewett, Duncan Bassett**, 5510 Fairview Ave., Vancouver, B.C.

- (S) Blum, Mary Halpern (Mrs.), 66 Lippincott St., Toronto, Ont.
- (A) Blum, William Demuth, B.A. (Lawrence College) 1935, M.A. (Wisconsin) 1936, Professor of Psychological Education, Northern Michigan College of Education, Marquette, Mich., U.S.A.
- (A) Blumes, Syma, B.A. (Manitoba) 1946. Executive Secretary, Hadassah Organization of Canada, Western Division, 228 Pritchard Ave., Winnipeg, Man.
- (S) Bock, John Carson, B.A. (Western Ontario) 1948. 206 Simeon St., Kitchener, Ont.
- (M) Bois, J. S. Anselme, B.A. (Laval) 1910, M.A. (McGill) 1934, Ph.D. (*ibid.*) 1936. Consulting Psychologist; 1410 Stanley St., Montreal 2, Que.
- (A) Bolton, Margaret Weldon (Mrs.), B.A. (British Columbia) 1942. Asst. Psychologist, Shaughnessy Hospital; 3374 East Boulevard, Vancouver, B.C.
- (A) Borthwick, John William, B.A. (British Columbia) 1948. 2170 West 51st Ave., Vancouver, B.C.
- (F) Bott, Edward A., O.B.E., B.A. (Toronto) 1912. Professor and Head, Dept. of Psychology, University of Toronto, Toronto, Ont.
- (S) Bowers, Joan Elizabeth, 218 Water St., Stratford, Ont.
- (A) Boyce, Elsinore Louise, B.A. (Western Ontario) 1947. Psychologist, Mental Health Clinic, Board of Health, Hamilton, Ont.
- (M) Boyd, John Baldwin, B.A. (Toronto) 1929, M.A. (*ibid.*) 1932. Personnel Branch, Robt. Simpson Co. Ltd., Toronto, Ont.
- (A) Boyd, Rex Duncan, B.Com. (Toronto) 1936. Staff Relations Office, The T. Eaton Co. Ltd., Montreal 2, Que.
- (S) Brawn, Clarence Edward, B.A. (Western Ontario) 1949. 381 Central Ave., London, Ont.
- (S) Breen, Harold John, B.A. (Western Ontario) 1948, M.A. (*ibid.*) 1949. 946 Dufferin Ave., London, Ont.
- (M) Bridges, James Winfred, B.A. (McGill), M.A. (Harvard), Ph.D. (*ibid.*) Professor, Social Science Division, Sir George Williams College, Montreal, Que.
- (A) Britton, Edward Chester, B.A. (Alberta) 1939, M.A. (*ibid.*) 1947. Director, Colusa County Community-School Project; 230 Sixth St., Colusa, California, U.S.A.
- (A) Broadfoot, David R., Redcliff, Alta.
- (S) Brougham, Norma Isabella, B.A. (Western Ontario) 1946. 441 King St., London, Ont.
- (M) Brown, A. Jean, B.A. (Toronto) 1924, M.A. (*ibid.*) 1927. Psychologist, Toronto Psychiatric Hospital, 112 College St., Toronto, Ont.
- (A) Brown, Frederick Thorburn (Major), A.B. (Harvard) 1932. Command Personnel Officer, HQ. Quebec Command, 3530 Atwater Ave., Montreal, Que.
- (A) Brunet, Gabrielle, B.A. (Ottawa) 1944, M.A. (Montreal) 1945, L.Ps. (*ibid.*) 1947. Psychologist, Centre d'Orientation, Montreal, Que.
- (A) Buck, Janet Elizabeth, B.A. (Toronto) 1947. Psychologist, Prov. Dept. of Public Health, Regina, Sask.
- (S) Burnett, Alastair, B.A. (British Columbia) 1947. 36 Willcocks St., Toronto, Ont.
- (A) Burns, Joyce Helen, B.A. (Manitoba) 1943. 14 Lonsdale Rd., Toronto, Ont.
- (A) Burwell, Elinor Jean (Mrs.), B.A. (Toronto) 1946. Psychologist, Veterans Pavilion of Ottawa Civic Hospital, Ottawa, Ont.
- (A) Bussard, Lawrence Hayworth, B.A. (Alberta) 1934, M.A. (*ibid.*) 1935, B.Ed. (*ibid.*) 1942, M.Ed. (*ibid.*) 1945. Superintendent of Schools, Drumheller, Alta.

- (A) Butler, Alfred James, Acadia Camp, University of British Columbia, Vancouver, B.C.
- (S) Butler, Barbara Alice, 47 Cordova St., Winnipeg, Man.
- (A) Cadwell, Dorothy Helen Belle, B.A. (Manitoba) 1930, M.A. (Columbia) 1948. Civil Service Commission, Ottawa, Ont.
- (M) Cadwell, J. Roy, B.A. (Toronto) 1930, M.A. (*ibid.*) 1932. 639 Carlaw Ave., Toronto, Ont.
- (A) Calp, Marie, B.A. (Queen's) 1949. 78 Orange St., St. John, N.B.
- (A) Campbell, Daniel McKenzie, Electroencephalographer, 584 Sherbrooke St., Winnipeg, Man.
- (A) Campbell, Gilbert McCully, B.A. (Alberta), M.D. (*ibid.*) 11035-87th Ave., Edmonton, Alta.
- (A) Caron, Camille, 57 St. Laurent, Louiseville, (Mask.) Que.
- (M) Carson, Marjorie Elizabeth Campbell, B.A. (Toronto) 1931, Dip.Soc.Sci., (*ibid.*) 1933, M.A. (*ibid.*) 1938, Psychologist, Children's Aid Society, 32 Isabella St., Toronto, Ont.
- (A) Chalmers, John West, B.A. (Manitoba) 1931, Dip.Ed. (Alberta) 1932, M.A. (*ibid.*) 1935, M.Ed. (*ibid.*) 1941. Superintendent of Schools, Killam, Alta.
- (M) Chant, Sperrin Noah Fulton, O.B.E., B.A. (Toronto) 1922, M.A. (*ibid.*) 1924. Professor of Psychology and Dean of Arts and Science, University of British Columbia, Vancouver, B.C.
- (A) Checov, Louis, B.A. (British Columbia) 1944. Dept. of Psychology, University of Washington, Seattle, Washington, U.S.A.
- (A) Chellew, Leonard George, B.A. (Toronto) 1946. Principal, Junior High School, Forest Hill Village, Toronto, Ont.
- (M) Chevrier, Jean-Marc, B.A. (Jacques Cartier) 1938, (Montreal) 1944. Chief, Guidance Bureau, Youth Training Plan, Dept. of Social Welfare and Youth, Province of Quebec; 10560 St. Urbain St., Montreal, Que.
- (A) Chidley, Erma Nadine (Mrs. Geo.), B.A. (Manitoba) 1933. Consultant Psychologist, Winnipeg Child Guidance Clinic; Director of Training for Psychometrists, Reading Clinician; 611 Ellice Ave., Winnipeg, Man.
- (A) Chittick, Rae, R.N. (Johns Hopkins) 1922, B.Sc. (Columbia) 1931, M.A. (Stanford) 1941. Asst. Professor, Dept. of Education, University of Alberta, Calgary Branch, Calgary, Alta.
- (S) Cholette, Françoise, 1451 St. Joseph Blvd. E., Montreal, Que.
- (S) Christie, Paul Armstrong, B.A. (Toronto) 1941, Peterson Residence, 25th Ave., Lachine, Que.
- (A) Clark, Jacqueline M., B.Sc. (Manitoba) 1946. Psychological Interne, Provincial Mental Hospital, Essondale, B.C.
- (A) Clark, Stanley, B.A. (Saskatchewan) 1932, B.Ed. (*ibid.*) 1936, M.Ed. (*ibid.*) 1940, Ph.D. (Minnesota). Assoc. Professor of Education, University of Saskatchewan, Saskatoon, Sask.
- (M) Clarke, Douglass Burns, B.A. (Sir George Williams College), M.A. (McGill). Asst. Professor, Dept. of Psychology, Sir George Williams College, Montreal, Que.
- (M) Clarke, F. R., B7 Board of Trade Bldg., Montreal, Que.
- (A) Cochrane, Robert John, B.A. (Manitoba) 1926, Ed.M. (Harvard) 1947. Principal, Lord Selkirk High School; 484 Sprague St., Winnipeg, Man.
- (A) Cole, Vera Olivia, B.A. (Queen's) 1949. Social Worker, Children's Aid Society, Sarnia, Ont.

- (S) Conger, David Stuart, 253 McLeod St., Ottawa, Ont.
- (A) Cook, John Thomas, B.A. (Saskatchewan) 1930, M.A. (*ibid.*) 1933, B.Paed. (Toronto) 1935, Ed.D. (Harvard) 1940. Professor, Dept. of Psychology, St. John's College, Winnipeg, Man.
- (M) Cook, Thomas William, B.A. (Acadia) 1925, M.A. (*ibid.*) 1926, Ph.D. (Yale) 1929. Defence Research Board, Dept. of National Defence, Ottawa, Ont.
- (S) Cooke, Allan Fletcher, B.A. (Manitoba) 1947. 905 Palmerston Ave., Winnipeg, Man.
- (S) Coons, Wesley Harrison, B.A. (Toronto) 1948. 479 Brunswick Ave., Toronto, Ont.
- (A) Corley, John Bryson, B.A. (Alberta) 1936, M.D. (*ibid.*) 1942. Medical Arts Bldg., Calgary, Alta.
- (M) Cosgrave, Gerald Pelton, B.A. (Manitoba) 1925, M.A. (Toronto) 1926, Ph.D. (*ibid.*) 1928. Director, Toronto Y.M.C.A. Counselling Service, 40 College St., Toronto, Ont.
- (S) Costello, John James Martin, B.A. (Toronto) 1945. 118-4th Ave. S., Saskatoon, Sask.
- (S) Courval, Jean, L.Ps. (Montreal) 1948. 5242 Saint-Denis, Montreal, Que.
- (A) Coutts, Herbert Thomas, B.A. (Toronto) 1935, M.A. (Alberta) 1940. Assoc. Professor, Faculty of Education, University of Alberta, Edmonton, Alta.
- (M) Cox, Kenneth J., B.Sc. 1931, M.A. (Boston) 1932. Director of Vocational Guidance, Y.M.C.A. 159 Emerson St., Hamilton, Ont.
- (S) Craig, William John, 329 Earl St., Kitchener, Ont.
- (A) Crowe, Herman Albert (Major), B.A. (Manitoba). Command Personnel Officer, Prairie Command, Dept. of National Defence (Army), Winnipeg, Man.
- (A) Cumberland, Jeune Rosamond, B.A. (Toronto) 1940. 274 St. Alexandre St., Longueuil, Que.
- (A) Cyr, Hervé W., M.A. (Ottawa) 1940, B.Ped. (*ibid.*) 1941. 24 Stewart St., Ottawa, Ont.
- (S) Dark, James George, 115 Atlantic Ave., Winnipeg, Man.
- (A) Davey, Isobel, (Mrs. R. C.), B.A. (Toronto) 1947. 350 Northcliffe Blvd., Toronto, Ont.
- (A) Davis, Inez Adeline, B.A. (Queen's) 1944. Sunnybrook Hospital, Toronto, Ont.
- (A) Dawe, John Frederick, B.Sc. (Saskatchewan) 1934, B.Ed. (*ibid.*) 1937, A.M. (Columbia) 1947. Test Research Adviser, Civil Service Commission, Ottawa, Ont.
- (S) Dawkins, Peter Bradley Harold, 269 Forest Hill Rd., Toronto, Ont.
- (A) Day, June Eileen, B.A. (Western Ontario) 1947. Psychologist, Ontario Hospital, Hamilton, Ont.
- (M) Dayhaw, Lawrence T., B.A. (Montreal) 1931, Ph.B. (Louvain) 1933, Paed.D., (*ibid.*) 1934, Ph.L. (Montreal) 1939. Professor, Institute of Psychology, University of Ottawa, Ottawa, Ont.
- (A) Decarie, Therese M. (Mrs.), B.A. (Sacred Heart Convent) 1943, L.Ps. (Montreal) 1947. 3466 McTavish St., Montreal, Que.
- (A) deGrandmont, Sylvio, L.S.Sc. (Montreal), Dip.Voc.Guid. (*ibid.*) 4514 Chambond St., Montreal, Que.
- (M) deJersey, Murray Gordon, B.A. (McGill) 1942. College Inn, Lombaert St., Bryn Mawr, Pa., U.S.A.
- (A) DeLaporte, Helen, B.A. (Toronto) 1913, B.Paed. (*ibid.*) 1936. Inspector of Auxiliary Classes, Ontario Dept. of Education, Toronto, Ont.

- (S) **Dennison, George Robert**, Memorial Residence, Acadia University, Wolfville, N.S.
- (S) **Dent, Ralph Willard**, B.A. (Toronto) 1947, M.A. (*ibid.*) 1949. 18 Fuller Ave., Toronto, Ont.
- (M) **Desautels, Gerard**, B.A. (Montreal), L.P. (*ibid.*). Supt. du Bureau de Placement; 759 Blvd. St. Joseph, Montreal, Que.
- (A) **Desjardins, Patricia Rollande**, B.A. (Manitoba) 1940, D.Ed. (*ibid.*) 1941, Dip. Soc. Work (*ibid.*) 1946. Visiting Teacher, Winnipeg Public Schools, Child Guidance Clinic; 138 Dollard Blvd., St. Boniface, Man.
- (S) **DesOrmeaux, Roger**, B.A. (Montreal) 1943. 4370 Boul. Decarie, N.D.G., Montreal, Que.
- (A) **Dettmer, Ruth**, B.A. (Western Ontario) 1949. 141 Windsor Cres., London, Ont.
- (M) **Devereux, Ralph Spence**, B.A. (Western Ontario) 1946, M.A. (*ibid.*) 1948. 551 William St., London, Ont.
- (A) **Dinsdale, Walter Gilbert**, B.A. (Brandon) 1937. Brandon College, Brandon, Man.
- (M) **Dolmage, Grace Louise**, B.A. (Manitoba) 1939, M.Sc.Ed. (Northwestern) 1940. Coordinator of Child Guidance Clinic Service; Ste. 6, Alameda Court, Ruby St., Winnipeg, Man.
- (A) **Donovan, Leslie Mignon**, B.A. (British Columbia) 1947. Psychol.Clin.Asst., Child Guidance Clinic, Calgary, Alta.
- (S) **Douglas, Helen Margaret**, B.A. (Western Ontario) 1949. 3 O'Brien St., London, Ont.
- (S) **Dower, Lola**, B.A. (Alberta) 1945. Address unknown.
- (M) **Dufresne, Georges**, B.A. (College André Grasset) 1938, L.Ph. (Montreal) 1942, M.A. (*ibid.*) 1943, L.Ps. (Institut de Psychologie) 1944. Chief Psychologist, D.V.A. Eastern District; 3842 Parc LaFontaine, Montreal, Que.
- (A) **Dumouchel, Jean-Georges**, B.A. (Ottawa), M.A. (*ibid.*) Ph.D. (*ibid.*). Acting Chief, Division of Occupational Research, Research and Statistics Branch, Dept. of Labour, Ottawa, Ont.
- (M) **Dunlop, Florence S.**, B.A. (Queen's) 1924, M.A. (Columbia) 1931, Ph.D. (*ibid.*) 1935. Psychologist, Ottawa Public School Board, Ottawa, Ont.
- (M) **Dunston, Anne Jeanette**, B.A. (Western Ontario) 1926, M.A. (Columbia) 1933. 1246 York St., London, Ont.
- (A) **Elart, Alice Jean**, B.A. (British Columbia) 1948. Psychological Interne, Provincial Mental Hospital, Essondale, B.C.
- (A) **Elliott, Elizabeth Anne**, B.A. (Western Ontario) 1945. Psychologist, Westminster Hospital, London, Ont.
- (S) **Elliott, George Gordon**, B.A. (Western Ontario) 1939, M.A. (Toronto) 1948. 4198 Dundas St. W., Toronto 18, Ont.
- (A) **Ellis, Jane B.**, B.A. (Western Ontario) 1944. Asst. Psychologist, Westminster Hospital, London, Ont.
- (S) **Eson, Morris E.**, B.Sc. (Chicago) 1942, A.M. (*ibid.*) 1944. 7252 East End Ave., Chicago 49, Ill., U.S.A.
- (M) **Estall, Henry Martyn**, B.A. (McGill) 1930, M.A. (*ibid.*) 1931, Ph.D. (Cornell) 1938. Dept. of Philosophy, Queen's University, Kingston, Ont.
- (M) **Ethier, Wilfred**, B.A., M.A., Ph.D. (Montreal). Director, Institut Canadien d'Orientation professionnelle, and of Institut Laval d'Orientation professionnelle; 4327 St. Hubert St., Montreal, Que.

- (A) Ewing, Russell Maurice, B.A. (Acadia) 1948. Glenholme, Colchester County, N.S.
- (M) Farebrother, Alfred Ernest, B.A. (Sir George Williams College) 1947. Apt. 16, 4994 Queen Mary Rd., Montreal, Que.
- (A) Farquhar, A. B., B.A. (Bishop's College and Queen's). Apt. 3, 4556 St. Catharines St. W., Westmount, Que.
- (S) Fedder, Shirley, 217 Brunswick Ave., Toronto, Ont.
- (S) Ferguson, Donald Gordon, Box 376, Transcona, Man.
- (M) Ferguson, George Andrew, B.A. (Dalhousie) 1937, B.Ed. (Edinburgh) 1938, Ph.D. (*ibid.*) 1940. Dept. of Psychology, McGill University, Montreal, Que.
- (S) Ferguson, Kingsley George, B.A. (Western Ontario) 1943. 47 Albion St., London, Ont.
- (S) Ferguson, Zonna Jean, 1017 Grosvenor Ave., Winnipeg, Man.
- (M) Fetterly, Allan Edgar, B.A. (Western Ontario). 1247 Richmond St., London, Ont.
- (A) Feyer, Leona, B.A. (Brooklyn) 1940, M.A. (Columbia) 1945. Employment Counsellor, Jewish Vocational Service, Montreal, Que.
- (A) Findlay, Margaret Hopkins, B.A. (McGill) 1939. 18 Oriole Cres., Toronto, Ont.
- (A) Finn, Theophilus George, B.A. (Alberta) 1935, A.M. (Stanford) 1947. Asst. Professor, Faculty of Education, University of Alberta; 2117-9th St. S.E., Calgary, Alta.
- (A) Fisher, Edward Joseph, B.A. (Toronto) 1947. Lecturer and Director of Clinic, College of Optometry, Toronto, Ont.
- (S) Fisher, Gordon Ross Dalzell, B.A. (New Brunswick) 1949. Box 127, Marysville, York County, N.B.
- (A) Fisher, Olive Margaret, Ph.B. (Chicago) 1922, M.A. (Stanford) 1942. Assoc. Professor of Education, University of Alberta, Calgary Branch, Calgary, Alta.
- (M) Fitzgerald, Gerald Walker, B.A. (Toronto) 1938, M.D. (*ibid.*) 1943. Consultant to D.V.A., Medical Arts Bldg., Regina, Sask.
- (A) Flemington, William Thomas Ross, O.B.E., B.A. (Mount Allison) 1922, M.A. (*ibid.*) 1923, B.Paed. (Toronto) 1930, D.D. (Queen's and Victoria). President, Mount Allison University, Sackville, N.B.
- (A) Flesher, Mary Frances, B.A. (British Columbia) 1946. 407 St. George St., New Westminster, B.C.
- (A) Fletcher, Elizabeth Isabel, B.A. (Western Ontario) 1945. Address unknown.
- (M) Fleury, J. W. A., B.A. (British Columbia). 2869 Highbury St., Vancouver, B.C.
- (A) Forcier, Gilbert Joseph, B.A. (Ottawa) 1946. 453 Laurier East, Ottawa, Ont.
- (S) Fouriez, Nicholas Theodore, B.A. (Sir George Williams College). Sturgeon Falls, Ont.
- (M) Fowler, Hanford McKee, B.A. (McGill) 1832, M.A. (New Brunswick) 1939, M.Ed. (Harvard) 1942, D.Ed. (*ibid.*) 1945. Assoc. Professor, Dept. of Educational Research, Ontario College of Education, University of Toronto, Toronto, Ont.
- (A) Fram, Isabel (Mrs.), B.A. (Toronto) 1946. Psychological Intern, Christie Street Hospital, Toronto, Ont.
- (A) Fraser, Allon Winfield, B.A. (Alberta) 1947. 9511-81st Ave., Edmonton, Alta.
- (M) Fraser, William Ross, B.A. (Mount Allison) 1932, M.A. (Dalhousie) 1935, B.D. (United Theological College) 1935. Apt. 1, 3025 Sherbrooke W., Montreal, Que.

- (A) **Freehill, Maurice F.**, B.Ed. (Alberta) 1946, M.A. (Stanford) 1947. Director, Bureau of Research, Western Washington College of Education, Bellingham, Wash., U.S.A.
- (A) **Friesen, Edward Peter**, B.Com. (British Columbia) 1944, B.A. (*ibid.*) 1945, M.A. (Columbia) 1947. c/o Stevenson and Kellogg, 1601 Royal Bank Bldg., Vancouver, B.C.
- (S) **Frizell, Richard Noel**, St. John's College, Winnipeg, Man.
- (A) **Fry, Howard Calvin**, B.A. (British Columbia) 1948. Psychological Intern, Provincial Mental Hospital, Essondale, B.C.
- (S) **Fry, Lois Margaret**, B.A. (Saskatchewan) 1939. 98 Canterbury Place, East Kildonan, Man.
- (A) **Gaddes, William Henry**, B.A. (British Columbia) 1939, M.A. (*ibid.*) 1946. Instructor in Psychology, Victoria College, Victoria, B.C.
- (M) **Gadoury, Louis D.**, B.A. 1925, M.Ed. (Montreal) 1933. 4479 Garnier St., Montreal, Que.
- (M) **Gagnon, J. A. Aurele** (Major), B.A. (Montreal), M.A. (McGill). Personnel Officer, Quebec Command (Army). Apt. 26, 7600 Delanaudiere St., Montreal, Que.
- (M) **Gander, E. Mary** (Mrs. T. A.), B.Sc. (Alberta), M.A. 238-11A St. N.W., Calgary, Alta.
- (A) **Gauthier, Gaston**, B.A. (Brebeuf) 1941, M.A. (Montreal) 1947. 2163 Ave. Bourbonniere, Sillery, Que.
- (S) **Gelfand, Leonard**, B.A. (Manitoba) 1946. Dept. of Psychology, University of Toronto, Toronto, Ont.
- (M) **Gerstein, Reva Diane** (Mrs.), B.A. (Toronto) 1938, M.A. (*ibid.*) 1939, Ph.D. (*ibid.*) 1945. Special Lecturer, Dept. of Psychology, University of Toronto, Toronto, Ont.
- (M) **Goodfellow, Hubert Doreanes Lloyd**, B.A. (Queen's) 1934. Psychologist and Director of Education, Ontario Hospital School, Orillia, Ont.
- (A) **Goodman, Florence P.** (Mrs.), B.A. (Toronto) 1947. 426 Surf St., Chicago 14, Ill., U.S.A.
- (A) **Goresky, Isidore**, B.A. (Manitoba) 1926, M.A. (Alberta) 1929, M.Ed. (*ibid.*) 1945. Superintendent of Schools, Thorhild, Alta.
- (A) **Gorman, Ivan Lloyd**, B.A. (Queen's) 1949. Merrickville, Ont.
- (A) **Gottheil, Edward**, B.A. (Queen's) 1946. Dept. of Psychology, Sutton Hall, University of Texas, Austin, Texas, U.S.A.
- (A) **Goudey, Elizabeth Starr**, B.A. (Toronto) 1947. 63 King George's Rd., Toronto 9, Ont.
- (S) **Govan, Alan David**, B.A. (Western Ontario) 1946. 8 Willcocks St., Toronto, Ont.
- (A) **Graber, Wilda Margaret**, B.A. (Western Ontario) 1936. Sir Adam Beck Collegiate, London, Ont.
- (M) **Grant, Marion Elder**, B.A. (Acadia) 1921, M.A. (Toronto) 1924, D.Paed. (*ibid.*) 1931. Asst. Professor, Dept. of Education and Psychology; Dean of Women, Acadia University, Wolfville, N.S.
- (M) **Grapko, Michael Frederic**, B.A. (Manitoba) 1944, M.A. (Toronto) 1947. 316 Indian Rd., Toronto, Ont.
- (A) **Gray, Walter Alexander**, B.A. (Saskatchewan) 1948. Psychologist, Ontario Hospital, Woodstock, Ont.
- (S) **Greenberg Clifford Gilbert**, 130 Scotia St., Winnipeg, Man.

- (S) Greenberg, Nathan, 4545 St. Lawrence Blvd., No. 5, Montreal, Que.
- (A) Gregory, Doris (Mrs.), B.A. (British Columbia) 1947. c/o Laboratory for Research in Social Relations, University of Minnesota, Minneapolis 14, Minn., U.S.A.
- (M) Grimmon, James W. (Major), B.A. (Queen's) 1932, B.Paed. (Toronto) 1936. Ontario Dept. of Education, Toronto, Ont.
- (S) Guitard, Maxime, 76 Hotel-de-Ville St., Hull, Que.
- (A) Guyot, Roger, 579 Jarvis St., Toronto, Ont.
- (M) Haagen, Conrad Hess, A.B. (Iowa) 1940, A.M. (*ibid.*) 1942, Ph.D. (*ibid.*) 1943. Asst. Professor of Psychology, University of Toronto, Toronto, Ont.
- (A) Hamill, Ruth, B.A. (Toronto) 1947. 480 Palmerston Blvd., Toronto, Ont.
- (M) Hampton, Peter, B.A. (Manitoba) 1938, M.A. (*ibid.*) 1940. Asst. Professor, Dept. of Psychology, Western Reserve University, Cleveland 14, Ohio, U.S.A.
- (A) Harlow, Milton W., B.A. (Alberta) 1914, M.A. (*ibid.*) 1916. 28 Heins Ave., Kitchener, Ont.
- (M) Harrower, Molly Rachel, Acad. Dip. (London) 1927, Ph.D. (Smith) 1934. Psychological Consultant, U.S. Department of State; 55 East 86th St., New York 28, N.Y., U.S.A.
- (A) Hart, Thomas, B.Sc. (Alberta) 1922, M.A. (*ibid.*) 1924, B.D. (*ibid.*) 1930, D.Th. (United Theological College) 1938. Superintendent of Home Missions, United Church of Canada; 10017-85th Ave., Edmonton, Alta.
- (A) Haynes, Cederic Philip (Major). Personnel Officer, Headquarters, Central Command, Ortona Barracks, Oakville, Ont.
- (M) Hebb, Donald O., B.A. (Dalhousie) 1925, M.A. (McGill) 1932., Ph.D. (Harvard) 1936. Dept. of Psychology, McGill University, Montreal. Que.
- (S) Hebden, Kathleen Joan, B.A. (Queen's) 1948. 226 N. Franklin St., Fort William, Ont.
- (M) Hewson, John Cecil, B.A. (Alberta) 1933, M.A. (*ibid.*) 1940, Ph.D. (California) 1942. Consulting Psychologist, Stevenson & Kellogg; 1601 Royal Bank Bldg., Vancouver, B.C.
- (S) Higgins, Aileen, 253 Inkster Blvd., Winnipeg, Man.
- (A) Highman, Sylvia, B.A. (Toronto) 1948. Voc. Counsellor, Jewish Vocational Service, 455 Spadina Ave., Room 215, Toronto, Ont.
- (M) Hill, F. Marguerite, B.A. (Toronto) 1940, M.A. (*ibid.*) 1941. 70 Weybourne Cres., Toronto, Ont.
- (M) Hobday, Kathleen M., B.A. (Toronto) 1928, M.A. (*ibid.*) 1946. Lecturer, Dept. of Educational Research, Ontario College of Education, University of Toronto, Toronto, Ont.
- (A) Hoffman, Irving Hames, B.Com. (Toronto) 1935, M.A. (*ibid.*) 1946. 881 Avenue Rd., Toronto, Ont.
- (A) Hogg, Shirley Gertrude, B.A. (Manitoba) 1946. Instructor, Dept. of Psychology, University of Manitoba; 697 McMillan Ave., Winnipeg, Man.
- (A) Holdsworth, Benjamin Herbert, B.A. (Toronto) 1944. 20609-109th Ave., Hollis, Long Island, N.Y., U.S.A.
- (A) Hood, Walter Robert, B.Sc. (Alberta) 1939, B.Ed. (*ibid.*) 1946. Principal, Thorsby High School, Thorsby, Alta.
- (S) Hoole, Arthur Herbert, 164 Home St., Winnipeg, Man.
- (M) Houck, John Howard, B.A. (Queen's), M.A. (*ibid.*) 49 King St. E., Kingston, Ont.
- (A) Hough, Arthur John Bates, L.Th. (St. John's College) 1939. 111 Capel St., Sarnia, Ont.

- (M) Howard, James Willis, B.S.A. (Toronto) 1923, Ph.D. (Cornell) 1936. Consulting Psychologist, St. Agnes Manor, 137 Bridge St. E., Belleville, Ont.
- (S) Howard, Kenneth Gilbert, 141 Rosser Ave., Selkirk, Man.
- (A) Howlett, John Marcus, B.A. (Manitoba) 1930. Command Personnel Officer, Western Command. C.A. (A.F.), Kingsway Ave., Edmonton, Alta.
- (S) Howson, James Donald L. (Rev.), B.A. (Toronto) 1937, L.Th. (McGill) 1940, M.A. (Toronto) 1948. St. Andrew's Presbyterian Church, Fredericton, N.B.
- (S) Hughes, Marcia Yvonne, B.A. (Western Ontario) 1947. Psychology Dept., Brown University, Providence, R.I., U.S.A.
- (A) Hughes, Mona Athol, B.A. (Toronto) 1942. 50 Nina Ave., Toronto, Ont.
- (A) Hulse, Helen Elizabeth, B.A. (Toronto) 1948. Psychologist, Ontario Hospital, Toronto, Ont.
- (HLF) Humphrey, George, B.A. (Oxon) 1912, M.A. (*ibid.*) 1920, Ph.D. (Harvard) 1920, F.R.S.C. Institute of Experimental Psychology, 34 Banbury Rd., Oxford, England.
- (A) Ireland, Ralph Reginald, B.A. (Toronto) 1940, M.A. (*ibid.*) 1947. 36 Sussex Ave., Toronto 5, Ont.
- (M) Irving, John Allan, B.A. (Toronto) 1926, B.A. (Cantab) 1930, M.A. (*ibid.*) 1934. Professor of Philosophy, Victoria College, University of Toronto, Toronto, Ont.
- (A) Jackson, H. James, B.A. (McMaster) 1932, M.A. (*ibid.*) 1934, B.Paed. (Toronto) 1936. Occupational Counsellor, Dept. of Veterans' Affairs; 187 Breezehill Ave., Ottawa, Ont.
- (A) Jagoe, Eva, B.A. (Alberta) 1926. Calgary School Board. 1431-26th St. W., Calgary, Alta.
- (A) Jagoe, Olive, B.Sc. (Alberta) 1928. Calgary School Board. 1431-26th St. W., Calgary, Alta.
- (M) Jeffrey, A. Edgar, B.A. 69 Orchard St., London, Ont.
- (A) Johnson, Carson Elston, B.A. (Western Ontario) 1946, M.A. (*ibid.*) 1948. c/o Dept. of Psychology, University of Rochester, Rochester 3, N.Y., U.S.A.
- (S) Joly, Jean-Marie, B.A. (Rimouski) 1946. 49 Hastey St., Ottawa, Ont.
- (M) Joly, Richard, M.A. L.Ph., B.Theol. (Ottawa). Director, Guidance Centre, Rimouski, Que.
- (A) Jones, Elvet Glyn, B.A. (British Columbia) 1946. Graduate Asst. in Psychology, University of British Columbia, Vancouver, B.C.
- (A) Jones, Marie A. (Mrs.), B.A. (Western Ontario) 1945. Address unknown.
- (S) Jourard, Sidney Marshall, B.A. (Toronto) 1947, M.A. (*ibid.*) 1948. 25 Newgate Rd., Forest Hill Village, Toronto, Ont.
- (S) Joyner, Robert Campbell, B.A. (Toronto) 1948. 555 Eglinton Ave. West, Toronto, Ont.
- (S) Jukes, Norma Isobel, 164 Luxton Ave., Winnipeg, Man.
- (A) Kalant, Levonah (Mrs.), B.A. (Toronto) 1946. Psychologist, Sunnybrook Hospital; 316 Eglinton Ave. E., Toronto 12, Ont.
- (A) Karal, Pearl (Mrs.), B.A. (Manitoba) 1946. 442 Euclid Ave., Toronto, Ont.
- (M) Karpoff, Theodore Matthew, B.A. (Alberta) 1932, B.D. (*ibid.*) 1935, M.A. (*ibid.*) 1947. Clergyman, The United Church of Canada. Box 69, Turner Valley, Alta.
- (S) Karr, Mona, 142 Tait Ave., West Kildonan, Man.
- (M) Keeley, Betty (Mrs. C. D.), B.A. (Western Ontario) 1940, M.A. (*ibid.*) 1942. 125 Victoria Ave., Chatham, Ont.

- (A) Kelly, William Henry (S/Inspector), Division Personnel Officer, Royal Canadian Mounted Police, Halifax, N.S.
- (A) Kenny, Douglas Timothy, B.A. (British Columbia) 1945. 675 Dunedin St., Victoria, B.C.
- (S) Keschner, Dorothee Ann, B.A. (Toronto) 1946. 394 Avenue Rd., Toronto, Ont.
- (M) Ketchum, John Davidson, B.A. (Toronto) 1922, M.A. (*ibid.*) 1926. Assoc. Professor, Dept. of Psychology, University of Toronto, Toronto, Ont.
- (M) Kibblewhite, Edward James, B.A. (Alberta) 1929, M.A. (*ibid.*) 1931, M.Ed. (*ibid.*) 1936. Chief Provincial Psychiatric Social Worker; 10910-79th Ave., Edmonton, Alta.
- (S) Kiefer, Roberta B., B.Ed. (Alberta) 1947. Girls' Counsellor, Rossland Junior-Senior High School, Rossland, B.C.
- (S) Kimball, Robert Guy E., 40 Rosemeade Ave., Halifax, N.S.
- (M) King, Herbert Baxter, B.A. (Queen's) 1913, M.A. (British Columbia) 1923, B.Paed. (Toronto) 1927, Ph.D. (Washington) 1936. 2646 No. 22 Rd., Haney, B.C.
- (M) King, Margery (Mrs.), B.A. (Western Ontario) 1934, M.A. (Toronto) 1936. 421 St. Clair Ave. E., Toronto, Ont.
- (A) Klein, Eslie Ted, c/o Canadian High News, Montreal, Que.
- (S) Kliman, Earl Melville, 3516 Victoria Ave., Regina, Sask.
- (S) Klions, Herbert Lionel, B.A. (Queen's) 1948. 1060 Van Horne Ave., No. 4, Outremont, Montreal 8, Que.
- (M) Knight, Charles Norman, B.A. (Toronto) 1939, Dip.Soc.Sci. (*ibid.*) 1939. Apt. 3, 397 Palmerston Blvd., Toronto, Ont.
- (M) Labrosse, Eva, B.A. (Ottawa) 1942, M.A. (*ibid.*) 1946. Asst. Professor, Institute of Psychology; Secretary, Vocational Guidance Centre, University of Ottawa, Ottawa, Ont.
- (A) Lachlan-White, Kerr, B.A. (McGill), M.D. 8 Brewster Rd., Hanover, New Hampshire, U.S.A.
- (A) Laidlaw, Robert G. N., B.A. (Toronto) 1939. 43 Coldstream Ave., Toronto, Ont.
- (A) Lamond, Conrad MacDonald, B.A. (Manitoba) 1946. Polymer Corp. Ltd., Sarnia, Ont.
- (S) Lamond, Donald Ewan, 15 Thelma Apts., Winnipeg, Man.
- (A) Lampard, Dorothy Mary, B.A. (Manitoba) 1937, M.A. (Chicago) 1946. Consulting Psychologist, Reading Clinician, Child Guidance Clinic, The University, Edmund St., Birmingham 3, England.
- (S) Lane, Russell Jacqueline, B.A. (Manitoba) 1948. 45 Willington Apts., Regina, Sask.
- (M) L'Archeveque, Paul, M.A. (Montreal), D.Ped. (*ibid.*) 5131B St. Denis Street, Montreal, Que.
- (M) Laurier, Blaise, M.A. (Catholic University of Washington). Professor of Psychology, University of Montreal, Montreal, Que.
- (A) Lawrence, Jessie Marguerite, B.A. (Mount Allison) 1940. Psychiatric Clinic, Dalhousie Public Health Centre, Halifax, N.S.
- (M) Laycock, Samuel R., B.A. (Toronto) 1911, M.A. (Alberta) 1916, M.Ed. (*ibid.*), Ph.D. (London) 1927. Professor of Educational Psychology, College of Education, University of Saskatchewan, Saskatoon, Sask.
- (A) Lazar, Leo, 15 Admiral Rd., Toronto, Ont.

- (S) Lazenby, Margaret Ruth, B.A. (Western Ontario) 1946. 60 Fifth Ave., St. Thomas, Ont.
- (M) LeBas, Margaret, B.A. (Acadia) 1936, M.A. (Toronto) 1938. Psychologist, Westminster Hospital, London, Ont.
- (A) Leckie, Janet M. (Mrs.), B.A. (Manitoba) 1938. Psychometrist, Child Guidance, Winnipeg School Board; 255 Glenwood Cres., Winnipeg, Man.
- (A) Leggett, Dorothy Elizabeth, B.A. (Toronto) 1943, M.A. (Michigan) 1947. Address unknown.
- (A) Leitch, Bernice (Mrs.), B.A. (Queen's) 1946. c/o Tsumeb Corp. Ltd., Tsumeb, South West Africa.
- (S) Lessard, Jean-Charles, B.A. (Montreal) 1945, B.Ps. (*ibid.*) 1946, M.A. (*ibid.*) 1948, L.Ps. (*ibid.*) 1949. Centre d'Oriental, 39 ouest Boul. Gouin, Montreal, Que.
- (A) Léveillé, Ernestine (Mme. Arthur), B.A., B.Psych. (Montreal). 28 Kelvin Ave., Outremont, Que.
- (A) Levinson, Toby F. (Mrs.), B.A. (Toronto) 1946. Psychologist, Toronto Psychiatric Hospital, 112 College St., Toronto, Ont.
- (M) Lewis, Alice Ruth Pongowska, B.A. (Toronto) 1928, M.A. (*ibid.*) 1930. Speech Therapist, Apt. 45, 8 St. Thomas St., Toronto, Ont.
- (A) Lewis, Gwynedd Hartwell, B.A. (Western Ontario) 1947. Psychologist, Western Counties Veterans' Lodge, London, Ont.
- (M) Liddy, Roy B., B.A. (Toronto) 1911, M.A. (*ibid.*) 1912, B.D. (Victoria) 1914, Ph.D. (Toronto) 1915, LL.D. (Mount Allison) 1931. Professor, Dept. of Psychology, University of Western Ontario, London, Ont.
- (A) Light, Phyllis Mary, B.A. (McMaster) 1938, B.Ed. (Saskatchewan) 1944. Psychologist, Colonel Belcher Hospital; 502-17th Ave. W., Calgary, Alta.
- (F) Line, William, O.B.E., B.Sc. (Mount Allison) 1921, M.A. (Alberta) 1922, B.Ed. (*ibid.*) 1925, Ph.D. (London) 1929. Professor, Dept. of Psychology, University of Toronto, Toronto, Ont.
- (A) Lingley, Lewis Roy Archibald, B.A. (Acadia) 1947. c/o Mrs. Dan Brady, R.R. No. 4, Perth, Ont.
- (A) Lister, Lois (Mrs. M. W.), B.A. (Cambridge). Occupational Psychologist; 63 Alder Cres., Deep River, Ont.
- (M) Long, Eleanor R. (Mrs. J. A.), B.A. (Mount St. Vincent) 1928, M.A. (Columbia), Ph.D. (Toronto) 1938. Psychologist, Infants' Home, Toronto, Ont.
- (A) Long, James Alan, B.A. (Toronto) 1948. 50 Hollywood Cres., Toronto 8, Ont.
- (M) Long, John A., B.A. (McMaster) 1915, Ph.D. (Columbia) 1932. Professor of Educational Research, Director, Dept. of Educational Research, Ontario College of Education, University of Toronto, Toronto, Ont.
- (A) Loomer, Alice, B.A. (Acadia) 1937, M.A. (Toronto) 1939. Falmouth, N.S.
- (A) Lourie, Marianne Rose (Mrs.), Doctor Iuris (Vienna) 1935. Instructor, Dept. of German, University of British Columbia, Vancouver, B.C.
- (A) Lowry, Ann Corinne, B.A. (Toronto) 1946. Psychologist, Division of Mental Hygiene, Dept. of Public Health, City Hall, Toronto, Ont.
- (A) Lucas, Edward John (Inspector). Divisional Personnel Officer, Royal Canadian Mounted Police, Edmonton, Alta.
- (HLM) Luke (Brother), F.S.C., B.A. (Ottawa) 1930, M.A. (*ibid.*) 1935, Ph.D. (*ibid.*) 1936, D.Paed. (Montreal) 1942. Professor of Education, Dept. of Education, University of Montreal; Director, Institut Pédagogique Saint-Georges, Mont-de-la-Salle, Montreal, Que.

- (A) Lussier, André, B.A. (College Ste. Marie) 1944, M.A. (Montreal) 1945, L.Ps. (*ibid.*) 1947. Clinical Psychologist, Centre d'Orientation; Teacher, Institute of Psychology, University of Montreal, Montreal, Que.
- (M) MacDonald, D. Stewart. B.A. (Toronto) 1938, M.A. (*ibid.*) 1939. Big Brother Movement, 504 Jarvis St., Toronto, Ont.
- (A) MacDonald, Marion A. M., B.A. (British Columbia) 1943. c/o Institute of Child Study, 96 St. George St., Toronto 5, Ont.
- (M) MacDougall, John Innes, B.A. (British Columbia) 1934, M.A. (*ibid.*) 1937. M.Ed. (Washington) 1945. 1125 Park Drive, Vancouver, B.C.
- (HLF) MacEachran, John Malcolm, M.A. 1902, Ph.D. (Queen's) 1906, Ph.D. (Leipzig) 1909, LL.D. (Alberta) 1933. Professor Emeritus of Philosophy, University of Alberta, Edmonton, Alta.
- (A) MacGregor, Mary Geraldine Neil, B.A. (Saskatchewan) 1941. Psychologist, Deer Lodge Hospital (Psychiatry), Winnipeg, Man.
- (A) MacKenzie, Alice Christina, B.A. (New Brunswick) 1947. Psychologist, Mental Health Clinic, Ontario Hospital, Kingston, Ont.
- (M) MacLean, James Duncan (Major), M.C., B.A., M.A. (Mount Allison). Asst. Director, St. John Vocational School; 127 King St. E., Saint John, N.B.
- (S) MacLeod, Angus Archibald, 5010 Sherbrooke St. W., Montreal, Que.
- (S) MacLeod, Donald Murdock, B.A. (Toronto) 1947. 444 Sumach St., Toronto, Ont.
- (M) MacLeod, Robert Brodie, B.A. (McGill) 1926, M.A. (*ibid.*) 1927, Ph.D. (Columbia). Dept. of Psychology, Cornell University, Ithaca, N.Y., U.S.A.
- (A) MacMillan, Allister Miles, B.A. (Acadia) 1947. Wolfville, N.S.
- (A) MacPherson, Alexander Donald, M.D.C.M. (Alberta) 1929. Provincial Mental Institute, Edmonton, Alta.
- (M) Mailloux, Noel (Father), O.P., B.A. (Montreal), Ph.D. (Rome), S.Th.L. (*ibid.*) Professor and Head, Dept. of Psychology, University of Montreal, Montreal, Que.
- (M) Malmo, Robert Beverley, B.A. (Missouri) 1935, M.A. (*ibid.*) 1937, Ph.D. (Yale) 1940. Head of Psychology Dept., Allan Memorial Institute, 1025 Pine Ave. W., Montreal, Que.
- (A) Mann, W. G., Personnel Adviser, Staff Dept., Head Office, Bank of Montreal, Montreal, Que.
- (M) Marcuse, Fred, B.A. (Queen's) 1938, M.A. (*ibid.*) 1940, Ph.D. (Cornell) 1942. Instructor, Dept. of Psychology, Cornell University, Ithaca, N.Y., U.S.A.
- (A) Mardiros, Anthony Manuel, B.A. (Melbourne) 1936, M.A. (*ibid.*) 1937, M.Litt. (Trinity College, Cambridge) 1943. Asst. Professor, Dept. of Philosophy, University of Alberta; 8708-112th St., Edmonton, Alta.
- (A) Marshall, Arthur, B.A. (Mount Allison) 1946. Camp Hill Hospital, Halifax, N.S.
- (M) Marshman, Cameron Stanley, B.A. (Western Ontario) 1940, M.A. (Toronto) 1942. Apt. 312, 88 Carlton St., Toronto, Ont.
- (S) Martens, Williams, 773 Winnipeg Ave., Winnipeg, Man.
- (A) Martin, Ruth Emeline, B.A. (British Columbia) 1947, M.A. (Toronto) 1949. 707 Spadina Ave., Toronto, Ont.
- (S) Mathieu, Claire, B.A. (Ottawa) 1944, M.A. (Montreal) 1945, L.Ps. (*ibid.*) 1947. 3809 Marlowe Ave., Montreal 28, Que.
- (A) McAllister, Robert Vernon, 2364 Wall St., Vancouver, B.C.
- (M) McBride, Irene Hepburn, B.A. (Toronto) 1928, M.A. (*ibid.*) 1930. 430 Durie St., Toronto 9, Ont.

- (A) McClellan, Grace Isabel, B.A. (Manitoba) 1933. Adjustment Teacher, Earl Grey School; 654 Eveline St., Selkirk, Man.
- (M) McCracken, Edward J., B.A. (St. F. Xavier), M.A. (McGill). 4875 Western Ave., Westmount, Que.
- (A) McCreary, John Kenneth, B.A. (Wheaton College) 1935, M.A. (Toronto) 1942, Ph.D. (*ibid.*) 1944. Associate Professor, Dept. of Education & Psychology, Bates College, Lewiston, Maine, U.S.A.
- (A) McCulloch, Mary, M.A. (Edinburgh) 1947. Johnson Hall, Columbia University, 411 W. 116th St., New York 27, N.Y., U.S.A.
- (A) McCulloch, Thomas Alex Hart, B.A. (British Columbia) 1948. Psychological Intern, Provincial Mental Hospital, Essondale, B.C.
- (A) McCullough, H. Elizabeth, B.A. (Alberta) 1945. Box 280, Red Deer, Alta.
- (A) McDougall, William Dewar, B.A. (Alberta) 1929, M.A. (*ibid.*) 1939, Ed.D. (Columbia) 1947. Assoc. Professor of Education, University of Alberta, Edmonton, Alta.
- (A) McFadgen, Lorna Blanche, B.A. (Queen's), Dip.Soc.Sc. (Toronto). Psychologist, Neuropsychiatric Services, Christie St. Hospital, Toronto, Ont.
- (M) McFarlane, Arthur H., B.A. (McGill) 1939, M.A. (*ibid.*) 1946. Student Counsellor, Sir George Williams College, Montreal, Que.
- (A) McGuire, J. Carson, B.A. (British Columbia) 1939, Ph.D. (Chicago) 1949. Member, Faculty in Human Development; Committee on Human Development, The University of Chicago, Chicago, Ill., U.S.A.
- (M) McIntyre, Keith M., B.A. (Western Ontario) 1936, A.M. (Columbia) 1940. Asst., Guidance Branch, Ontario Dept. of Education, Toronto, Ont.
- (A) McLeod, Hugh N., B.A. (British Columbia) 1946, M.A. (Toronto) 1948. Asst. Psychologist, Sunnybrook Hospital, Toronto, Ont.
- (A) McQuaig, Jack Hunter, B.Com. (Queen's) 1936. c/o J. H. McQuaig & Co., 19 Melinda St., Toronto, Ont.
- (M) McQuitty, Louis Laforce, B.S.E. (Florida) 1933, M.A. (Toronto) 1934, Ph.D. (*ibid.*) 1937. Dept. of Psychology, University of Illinois, Champaign, Ill., U.S.A.
- (S) Mehmel, Philip Vincent, 425 Tweed Ave., Winnipeg, Man.
- (A) Miller, J. Charles, M.D. (Montreal). P.O. Mastai, Que.
- (A) Miller, Robert Grace, B.A. (Toronto) 1934, M.A. (*ibid.*) 1935, Ph.D. (*ibid.*) 1938. Chairman, Dept. of Philosophy and Psychology, University of St. Thomas, 3812 Montrose Blvd., Houston 6, Texas, U.S.A.
- (A) Millichamp, Dorothy Akers, B.A. (Toronto) 1930, M.A. (*ibid.*) 1932. Asst. Director, Institute of Child Study, University of Toronto, Toronto, Ont.
- (A) Milner, Brenda Atkinson, B.A. (Cambridge) 1939, M.A. (*ibid.*) 1941. Instructor, Institut de Psychologie, University of Montreal, Montreal, Que.
- (M) Milner, Esther, B.A. (Queen's) 1944, M.A. (Minnesota) 1944. 5835 Kimbark Ave., Chicago 37, Ill., U.S.A.
- (A) Misselbrook, Bertram Desmond, B.A., Dip.Ed. Lecturer, Dept. of Psychology, The University of Edinburgh, Edinburgh, Scotland.
- (S) Mohier, Jacques, 1457 Pie IX Blvd., Montreal 4, Que.
- (M) Monaghan, William Joseph, (Inspector), Royal Canadian Mounted Police, Winnipeg, Man.
- (M) Moore, Andrew, B.A. (Manitoba) 1920, B.Sc. (*ibid.*) 1921, LL.B. (*ibid.*) 1927, Ph.D. (Toronto) 1944. 187 Queenston St., Winnipeg, Man.

- (M) **Moore, Herbert**, B.A. (Toronto) 1924, A.M. (Harvard) 1926, Ph.D. (*ibid.*) 1931. Personnel Consultant; 140 Highbourne Rd., Toronto, Ont.
- (S) **Moore, Richard Evan**, B.A. (Western Ontario) 1948. 39 Cathcart St., London, Ont.
- (M) **Moreau, Gilles-Yvon**, B.A. (Montreal) L.Ps. (*ibid.*). 4152 St. Denis St., Montreal, Que.
- (A) **Moreault, Louis**, B.A. (Laval) 1942. Psychologist, Dept. of Social Work, Laval University, Quebec, Que.
- (M) **Morsh, Joseph E.**, B.A. (British Columbia) 1929, Ph.D. (Hopkins) 1932. Professor, Dept. of Psychology, University of Hawaii, Honolulu, Territory of Hawaii.
- (M) **Morton, Nelson Whitman**, B.A. (McGill) 1930, M.A. (*ibid.*) 1931, Ph.D. (*ibid.*) 1933. Director of Operational Research, Defence Research Board, Dept. of National Defence, Ottawa, Ont.
- (A) **Munro, Marjory Helen Shand**, B.A. (British Columbia) 1940, M.A. (*ibid.*) 1946. Psychologist, Child Guidance Clinic, Vancouver, B.C.
- (M) **Murray, Kenneth Hemsley**, B.Sc. (Springfield College), M.Ed. (*ibid.*) Guidance Counsellor, Junior High School, Westmount, Que.
- (M) **Myers, Charles Roger**, B.A. (Toronto) 1927, M.A. (*ibid.*) 1929, Ph.D. (*ibid.*) 1937. Professor, Dept. of Psychology, University of Toronto; Consultant Psychologist, Ontario Dept. of Health, Toronto, Ont.
- (A) **Nairne, Dorothy Bisset**, B.A. (British Columbia) 1946. Clinical Asst., Child Guidance Clinic, Vancouver, B.C.
- (M) **Neal, Leola Ellen**, B.A. (Western Ontario) 1933, M.A. (*ibid.*) 1935, Ph.D. (Toronto) 1942. Assoc. Professor, Dept. of Philosophy and Psychology; Dean of Women, University of Western Ontario, London, Ont.
- (A) **Nelson, Marvin O.**, B.A. (Grenville) 1941, M.Sc. (Okla. A. & M.) 1944. Assoc. Professor of Psychology, Houghton College, Houghton, N.Y., U.S.A.
- (M) **Nethercott, James Pliny S.**, B.A. (Toronto) 1916, M.A. (*ibid.*) 1922, M.A. (Columbia) 1947. Director of Vocational Guidance, Board of Education; 325 Victoria St., London, Ont.
- (A) **Nevin, William Harrison Graham (Inspector)**. Divisional Personnel Officer, Royal Canadian Mounted Police, Ottawa, Ont.
- (A) **Nicholson, Jean Gertrude**, B.A. (Toronto) 1944, Dip.Ch. Study (*ibid.*) 1945, M.A. (*ibid.*) 1946. Institute of Child Study, 96 St. George Street, Toronto, Ont.
- (S) **Nicholson, Ralph Hugh**, B.A. (Toronto) 1948. 92 Rosewell Ave., Toronto, Ont.
- (A) **Nodwell, William Ewart**, B.A. (Toronto) 1922. Hillsburg, Ont.
- (M) **Norris, Kenneth E.**, B.A. (McGill) 1929, M.A. (*ibid.*) 1931, Ph.D. (*ibid.*) 1939. Principal, Sir George Williams College, Montreal, Que.
- (A) **North, Sidney L.**, B.A. (Western Ontario) 1949. 17 Palm St., St. Thomas, Ont.
- (M) **Northway, Mary Louise**, B.A. (Toronto) 1933, M.A. (*ibid.*) 1934, Ph.D. (*ibid.*) 1938. 47 Mill St., Richmond Hill, Ont.
- (M) **Oliver, Zella Jeanne**, B.A. (Alberta) 1931, M.A. (Columbia) 1944. Asst. Professor of Education, University of Alberta, Edmonton, Alta.
- (S) **Olstead, Margery Ruth**, B.A. (Alberta) 1948. 487 Brunswick Ave., Toronto, Ont.
- (A) **O'Reilly-Hewitt, Frederick Thomas**, B.Com. (McGill) 1933, M.A. (Toronto) 1947. 3429 Peel St., Montreal, Que.

- (M) Page, Francis Hilton, B.A. (Toronto), M.A. (*ibid.*). Professor, Dept. of Psychology, King's College, Halifax, N.S.
- (A) Page, Joseph L., School Inspector; 6677 rue Iberville, Montreal 36, Que.
- (S) Paisley John Kyle, B.Com. (British Columbia) 1947, B.A. (*ibid.*) 1947. 4612 Angus Drive, Vancouver, B.C.
- (A) Panabaker, Harold Edward, B.A. (Alberta) 1938. Supervisor of Guidance, Calgary School Board, McDougall School, Calgary, Alta.
- (S) Parashin, Paul, B.A. (Manitoba) 1939. Community Secretary, Y.M.C.A., 875 Pritchard Ave., Winnipeg, Man.
- (A) Parkin, Alan Cresswell, B.A. (Manitoba) 1945. 94 Humbercrest Blvd., Toronto, Ont.
- (M) Parmenter, Morgan Dewart, B.A. (Toronto) 1931, M.A. (*ibid.*) 1933. Assoc. Professor of Guidance; Director of Vocational Guidance Centre, Ontario College of Education, University of Toronto, Toronto, Ont.
- (A) Paterson, Anne T., 12 Dryden Place, Edinburgh, Scotland.
- (M) Patrick, Clifford A., B.A. (Chicago). 160 Clarendon Ave., Ottawa, Ont.
- (A) Peat, J. R. McDonald, B.A. (Toronto) 1940, B.Paed. (*ibid.*) 1942. 78 Chudleigh Ave., Toronto, Ont.
- (M) Penrose, Lionel Sharples, M.A., M.D. (Cantab), M.R.C.P. Professor, The Galton Laboratory, University College, University of London, Gower St., London W.C.1, England.
- (A) Perry, Philip Carleton, B.A. (Saskatchewan) 1940. 130 Chapel St. (Ste. 4), Ottawa, Ont.
- (A) Pettifor, Richard Ernest, B.Ed. (Alberta) 1946, M.Ed. (*ibid.*) 1948. Psychiatric Social Worker, Calgary Branch, Provincial Guidance Clinic. 112-9th Avenue N.W., Calgary, Alta.
- (M) Philip, B. Roger, B.A. (Toronto) 1917, M.A. (*ibid.*) 1922, Ph.D. (Catholic University of America) 1928. Dept. of Psychology, Queen's University, Kingston, Ont.
- (A) Piers, Ellen Virginia, B.A. (Acadia) 1939, B.Ed. (*ibid.*) 1946. Psychologist, Department of Public Health, Halifax, N.S.
- (A) Plenderleith, Eileen Mavis, B.A. (British Columbia) 1947, M.A. (*ibid.*) 1948. Clinical Asst., Child Guidance Clinic, Vancouver, B.C.
- (A) Plourd, Albert Anthony, B.A. (St. Joseph, N.B.) 1931, M.A. (Boston) 1937. Asst. Professor of Applied Psychology, Ecole de Commerce, Laval University, Quebec, Que.
- (S) Porter, Georgia Elizabeth, Testing Officer, National Employment Service; Ste. 6, The Ludlow, 141 River Ave., Winnipeg, Man.
- (A) Porter, Helen (Mrs.), B.A. (Toronto) 1939. Vocational Counsellor, Y.W.C.A., 21 McGill St., Toronto, Ont.
- (A) Poser, Ernest George, B.A. (Queen's) 1947. Queen's University, Kingston, Ont.
- (M) Potashin, Reva, B.A. (Toronto) 1942, M.A. (*ibid.*) 1944. Dept. of Psychology, University of Toronto, Toronto, Ont.
- (A) Prefontaine, Leonard, M.Soc.Sc. (Montreal) 1940, Dip.Voc.Guid. (*ibid.*) 1943. Regional Supt., Unemployment Insurance Commission, 480 East St. Joseph Blvd., Montreal 34, Que.
- (A) Pullan, Vivian (Mrs.), B.A. (Toronto) 1944. 28 Gloucester Grove, Toronto, Ont.
- (S) Pullen, Janet Elosie, 236 Colborne St., Oakville, Ont.

- (S) Racine, Marcel, B.A. (Ottawa) 1947, B.Ph. (*ibid.*) 1947. 428 Clarence, Ottawa, Ont.
- (A) Read, Lea MacLean, B.Sc. (Sir George Williams College). Apt. 15, 4200 Cavendish Blvd., Montreal, Que.
- (S) Record, (Fr.) Maurice Adrian, C.S.B., B.A. (Assumption College) 1935. Holy Rosary Seminary, 314 Tweedsmuir Ave., Toronto 10, Ont.
- (A) Reeves, Arthur Weir, B.A. (Alberta) 1936, M.A. (Chicago) 1939. High School Inspector, Dept. of Education; 9826-72nd Ave., Edmonton, Alta.
- (S) Reid, Phyllis Marion. Address unknown.
- (A) Reid, Russell, B.A. (Western Ontario). Public School Principal, c/o Brantford Public Schools, Brantford, Ont.
- (A) Richardson, Arthur George, (Captain), B.A. (British Columbia) 1939, M.A. (*ibid.*) 1940. 853 Reed St., Victoria, B.C.
- (A) Richmond, Mary Pauline, R.N. Box 78, Napanee, Ont.
- (A) Riedl, George E. (Rev.), B.A. (Montreal) 1935, M.A. (*ibid.*) 1945. 3725 St. Denis St., Montreal 18, Que.
- (A) Riley, Lawrence Paul, B.A. (Wesleyan College) 1948. 59 Wilson St., Oakland, Maryland, U.S.A.
- (S) Rinn, Amy May, 705 Arlington St., Winnipeg, Man.
- (M) Ritchie, Robinson Lyndhurst Wadmore, B.A. (Alberta) 1936. Chief Personnel Officer, British Columbia Civil Service Commission, Parliament Bldgs., Victoria, B.C.
- (A) Rivard, Reynald, B.A. (Trois-Rivières Seminary) 1939. 453 Laurier E., Ottawa, Ont.
- (M) Robbins, John E., B.A. (Manitoba) M.A., Ph.D. Chief, Education Branch, Dominion Bureau of Statistics; Secretary-Treasurer, Canadian Social Science Research Council; 166 Marlborough Ave., Ottawa, Ont.
- (A) Robillard, René Henri (Major). 147 Spadina Ave., Ottawa, Ont.
- (A) Robinson, Ruth E. (Mrs), B.A. (Manitoba) 1938. Psychometrist, Child Guidance, Winnipeg School Board; 35 The Adanac Apts., Sargent Ave., Winnipeg, Man.
- (M) Robinson, Winifred A., B.A. (Western Ontario) 1944. M.A. (Toronto) 1946. Psychologist, Mental Health Clinic, Ontario Hospital, Hamilton, Ont.
- (A) Robson, Clifford Joseph, B.A. (Manitoba) 1939. Asst. Professor of Psychology, United College; 228 Brock St., Winnipeg, Man.
- (M) Rogers, Kenneth Herbert, B.A. (Toronto) 1926, M.A. (*ibid.*) 1928, Ph.D. (*ibid.*) 1933. Gen. Secretary, Big Brother Movement, 504 Jarvis St., Toronto, Ont.
- (M) Rogers, W. Frank, B.A. (Toronto) 1943. 283 North Christina, Sarnia, Ont.
- (A) Roos, Robert Charles, B.A. (Toronto) 1944. Palmerston, Ont.
- (S) Rose, Nancy Flora, B.A. (Western Ontario) 1949. 639 Talbot St., London, Ont.
- (A) Rosenfeld Gdalyan Ben-Zion, B.A. (Sir George Williams College). Apt. 11, 234 Charlotte St., Ottawa, Ont.
- (S) Ross, Roy Weldon, B.A. (Dalhousie) 1948. 102 St. George St., Toronto, Ont.
- (M) Ross, Sherman, B.Sc. (C.C.N.Y.) 1939, A.M. (Columbia) 1941, Ph.D. (*ibid.*) 1943. Dept. of Psychology, Bucknell University, Lewisburg, Penna., U.S.A.
- (M) Ross, Verity Mitchell (Mrs.), B.Sc. (Columbia), M.Sc. (McGill). 3432 Peel St., Montreal, Que.
- (M) Ross, W. Donald, M.D., B.Sc (Manitoba) 1938. Dept. of Psychiatry, Cincinnati General Hospital, Cincinnati, Ohio, U.S.A.

- (M) Rossignol, Leo, M.A. (Ottawa), Ph.D. (*ibid.*) L.Ped. (Montreal) 1944. Schools Inspector; Box 194, Dorion, Vaudreuil, Que.
- (A) Rosvold, Helder Enger, B.A. (Alberta), M.A. (Stanford). Dept. of Psychiatry, Yale University School of Medicine, New Haven 11, Conn., U.S.A.
- (A) Rotenberg, Bluma Rachel, B.A. (Toronto) 1946. Dunwold, Roslin Ave., Toronto 12, Ont.
- (A) Rowcliffe, Robert Gay (Rev.), B.A. (Bishop's University). Sackville, N.B.
- (M) Russell, Olive Ruth, B.A. (Toronto) 1931, Ph.D. (Edinburgh) 1935. Assoc. Professor, Dept. of Psychology, Winthrop College, Rock Hill, South Carolina, U.S.A.
- (A) Sage, Flora Margaret, B.A. (British Columbia) 1941. 2216 Bellfield Rd., Cleveland 6, Ohio, U.S.A.
- (S) St. Pierre, Lionel Hubert, B.A. (Montreal) 1939, M.A. (*ibid.*) 1948. 10949 Boul. St. Laurent, Montreal, Que.
- (M) Salter, Mary Dinsmore, B.A. (Toronto) 1935, M.A. (*ibid.*) 1936, Ph.D. (*ibid.*) 1939. Asst. Professor, Dept. of Psychology, University of Toronto, Toronto, Ont.
- (A) Sampson, Donald Louis Gilmer. 102 St. George St., Toronto, Ont.
- (A) Samuels, Arthur Jacob, B.Sc. (Alberta) 1939, M.D. (*ibid.*) 1943. Dépt. of Medicine, Salt Lake General Hospital, Salt Lake City, Utah, U.S.A.
- (HLM) Sansom, Clarence, B.A. (New Brunswick), Ph.D. (Chicago). 1326-16th St. N.W., Calgary, Alta.
- (M) Sawatsky, John Cornelius, B.A. (Manitoba), M.A. (Toronto) 1946. Apt. 6, 72 Hubbard Blvd., Toronto, Ont.
- (S) Schleihauf, John Philip, B.A. (Western Ontario) 1948. 1126 Union Avenue, Montreal 3, Que.
- (A) Schuhmann, Alfred, Ph.D. (Munich) 1925, Ph.D. (Pavia) 1935. 1934 W. 41 Place, Los Angeles 37, Cal., U.S.A.
- (A) Scott, Ann, B.A. (Western Ontario) 1946. 8638-108th St., Edmonton, Alta.
- (M) Scott, William G., B.A. (Western Ontario) 1943. Asst. Professor of Philosophy and Psychology, Waterloo College, Waterloo, Ont.
- (M) Seeley, H. John R. F., B.A. (Chicago). c/o National Committee for Mental Hygiene, 111 St. George St., Toronto, Ont.
- (A) Shagass, Charles, B.A. (McGill), M.S. (Rochester). 4827 Fulton Ave., Montreal, Que.
- (M) Shane, S. Gerald, M.A. (McGill) 1942. 5784 Northmount Ave., Montreal, Que.
- (A) Shapiro, Evelyn, B.A. (McGill) 1946, M.A. (*ibid.*) 1947. Vocational Counsellor, Jewish Vocational Service, Montreal, Que.
- (S) Shaw, Edward Alexander, 283 Victoria St., Kingston, Ont.
- (A) Shaw, Evelyn Marguerite, B.A. (Toronto) 1947. Address unknown.
- (M) Shevenell, Raymond Henry, B.A. (Ottawa) 1929, L.Ph. (*ibid.*) 1931. Professor of Psychology, and Director, Institute of Psychology, University of Ottawa; Laurier Ave. East, Ottawa, Ont.
- (S) Shiffman, Sidney Robert, B.A. (Manitoba) 1947. 425 Anderson Ave., Winnipeg, Man.
- (S) Shipman, William Gibson, B.A. (Western Ontario) 1949. 8 Clenray Place, London, Ont.
- (S) Shortliffe, Ernest Carl, B.A. (Alberta) 1941. 11008-82nd Ave., Edmonton, Alta.
- (M) Sibley, William Maurice, B.A. (British Columbia), M.A. (*ibid.*) 1940, Ph.D.

- (Brown) 1943. Assoc. Professor, Dept. of Philosophy, University of Manitoba, Winnipeg, Man.
- (A) Sigesmund, Reesa, B.A. (Manitoba) 1946. 82 St. Cross St., Winnipeg, Man.
- (M) Signori, Edro I., B.A. (Alberta) 1937, M.A. (Toronto) 1940, Ph.D. (*ibid.*) 1947. Dept. of Psychology, University of British Columbia, Vancouver, B.C.
- (A) Simmermon, Elsie Logan, B.A. (Alberta) 1937, M.Sc. (S. California) 1939. Teacher, Sedgewick Central High School, Sedgewick, Alta.
- (S) Sirkis, Rubin, 300 Selkirk Ave., Winnipeg, Man.
- (A) Sloan, Emmett Patrick, B.A. (McGill) 1948, M.A. (*ibid.*) 1949. Peterson Residences of McGill University, 25th Ave., Lachine, Que.
- (A) Smith, Alfred Arthur, B.A. (Queen's) 1941. 1A, LaSalle Residences, Kingston, Ont.
- (M) Smith, Albert Henry, B.A. (Queen's) 1935, M.A. (*ibid.*) 1936. Dept. of Psychology, University of Toronto, Toronto, Ont. P.O. Box 755, Paris, Ont.
- (M) Smith, C. Ebbelwhite, B.Sc. (London), M.A. (Toronto), D.Paed. (*ibid.*) Director, School of Social Work, University of Manitoba, Winnipeg, Man.
- (M) Smith, Douglas E., B.A. (Queen's) 1933, M.A. (*ibid.*) 1934, Ph.D. (Harvard) 1937. Assoc. Professor, Dept. of Philosophy, University of Alberta, Edmonton, Alta.
- (M) Smith, Herbert Edgar, A.B. (Illinois) 1916, M.A. (Alberta) 1925, B.Ed. (*ibid.*) Ph.D. (California) 1929. Assoc. Professor, Faculty of Education, University of Alberta, Edmonton, Alta.
- (M) Smith, M. Roberta, B.A. (Mt. Allison) 1925, M.A. (Toronto) 1929. Psychologist, Mental Health Clinic, Ontario Hospital, Brockville, Ont.
- (A) Snider, Ruth (Mrs. G. L.), B.A. (Toronto) 1944, M.A. (*ibid.*) 1945. Counselling Division, Huntington Avenue, Y.M.C.A., Boston, Mass., U.S.A.
- (S) Sniderman, Goldene, 118 Dewbourne Ave., Toronto, Ont.
- (M) Sofin, Rosalie (Mrs.), B.A. (McGill) 1944. Vocational Counsellor, Jewish Vocational Service; Apt. 4, 3335 Ridgewood Rd., Montreal, Que.
- (A) Somers-DeHaney, Kenneth G. (Mrs.), B.Sc. (Massachusetts) 1939, A.B. (Howard) 1942. The London Central Y.M.C.A., 112 Great Russell St., London W.C.1, England.
- (A) Somers-DeHaney, Kenneth Gladstone, B.Sc. (Howard) 1942, M.Sc. (*ibid.*) 1942. The London Central Y.M.C.A., 112 Great Russell St., London W.C. 1, England.
- (M) Southam, Harold Davey, B.A. (British Columbia) 1929, B.Paed. (Toronto) 1931, D.Paed. (*ibid.*) 1933. Acting Professor of Education and Director of Extension Department, Mt. Allison University, Sackville, N.B.
- (A) Sparby, Harry Theodore, B.Sc. (Alberta) 1933, M.A. (*ibid.*) 1939. Assoc. Professor of Education, University of Alberta, Edmonton, Alta.
- (A) Spaulding, Harrison B., B.A. (Toronto) 1914, Barrister (Osgoode Hall) 1918, Ph.D. (London) 1926. Personnel Manager John Labatt Ltd., London, Ont.
- (M) Spearman, Donald, B.A. (McGill), M.A. (*ibid.*), L.Ps. (Montreal). Dept. of Philosophy and Psychology, University of Alberta, Edmonton, Alta.
- (M) Stapleford, Elsie, B.A. (Saskatchewan), M.A. (Toronto). Asst. Director, Day Nursery Branch, Ontario Dept. of Welfare, Toronto, Ont.
- (A) Stee, Marjorie Jane, B.A. (Toronto) 1943. Asst., Nursery School, Institute of Child Study, University of Toronto; 404 Glencairn Ave., Toronto, Ont.
- (A) Steer, Horace Oliver, B.A. (Toronto) 1942, M.A. (*ibid.*) 1947. Lecturer, Dept. of Psychology, University of Toronto, Toronto, Ont.

- (M) Stehelin, Betty Ross (Mrs. J. W.), B.A. (Mount Allison), M.A. (Toronto), 1940. Dept. of Guidance, East York Collegiate Institute, Toronto, Ont.
- (M) Stein, Harry L., B.A. (Manitoba) 1922, M.A. (*ibid.*) 1935, Ph.D. (Minnesota) 1942. Assoc. Professor of Education, University of Manitoba, Winnipeg, Man.
- (A) Stein, Ruth Lillian, B.A. (Sir George Williams College) 1945. Vocational Counsellor, Jewish Vocational Service, Montreal, Que.
- (M) Stevens, Norah (Bowers) (Mrs. G. W.), B.A. (Toronto) 1933, M.A. (*ibid.*) 1935. 434 Victoria Park Ave., Toronto, Ont.
- (M) Stevens, Vernon Stanley, B.A. (McMaster) 1916, M.A. (Toronto) 1937. Teacher, Vocational Counsellor; 339 Annette St., Toronto, Ont.
- (M) Stevenson, George Herbert, M.D. (Toronto), F.R.S.C. Superintendent, Ontario Hospital, London, Ont.
- (M) Stewart, David Alexander, M.A. (Toronto) 1933, Ph.D. (*ibid.*) 1939. Dept. of Psychological Services, University of New Brunswick, Fredericton, N.B.
- (S) Stewart, Elizabeth Branks, B.A. (Queen's) 1948. 829 Fourth Ave. N.W., Moose Jaw, Sask.
- (S) Stewart, Richard Arthur Douglas, B.A. (Toronto) 1940. 538-W. 47th Street, New York 19, N.Y., U.S.A.
- (S) Stilwell, Audrey Grace, B.A. (Western Ontario) 1949. 1081 Richmond St., London, Ont.
- (M) Stothers, C. E., B.A. (Queen's) 1921, B.Paed. (Toronto) 1930, D.Paed. (*ibid.*) 1934. Inspector of Auxiliary Classes, Ontario Dept. of Education, Toronto, Ont.
- (S) Struckett, Pauline Bryant Athole, B.A. (Western Ontario) 1948. Hotel London, London, Ont.
- (S) Sunde, John Alfred, 1158 Garfield St., Winnipeg, Man.
- (A) Swann, Reginald LeGrand, A.B. (Schenectady) 1930, A.M. (Harvard) 1933. Professor, Teachers' College of Connecticut, New Britain, Conn., U.S.A.
- (S) Swanson, Donovan Alroy, B.Ed. (Alberta) 1946. Apt. 4, Bldg. 413, Stanford Village, Stanford, Cal., U.S.A.
- (A) Swift, William Herbert, B.A. (Alberta) 1924, M.A. (*ibid.*) 1927, M.Ed. (*ibid.*) 1930, Ph.D. (Stanford) 1942. Deputy Minister of Education, Province of Alberta, Edmonton, Alta.
- (A) Szyrnski, Victor, M.D. (Warsaw) 1938, Ph.D. (Ottawa) 1949. Assoc Professor, Institute of Psychology; Consultant Psychiatrist, Guidance Centre; Lecturer, Faculty of Medicine, University of Ottawa, Ottawa, Ont.
- (A) Taylor, Sherman J., B.A. (Toronto) 1947. 46 Davisville Ave., Toronto, Ont.
- (S) Thompson, Enid Ruth, 339 Maplewood Ave., Winnipeg, Man.
- (M) Thompson, Louise Marjorie, B.A. (New Brunswick) 1937, B.Ed. (Edinburgh) 1939, Ph.D. (Yale) 1944. Professor, Dept. of Psychology and Education, University of New Brunswick, Fredericton, N.B.
- (S) Thompson, Ruth Sylvia. Address unknown.
- (A) Thompson, William Robert, B.A. (Toronto) 1945, M.A. (*ibid.*) 1947. International House, 1414 East 59th St., Chicago 37, Ill., U.S.A.
- (A) Thomson, Zillah Henrietta, B.A. (Manitoba) 1942, Dip.Soc.Sci. (*ibid.*) 1944. 4491 Rupert St., Vancouver, B.C.
- (M) Thurlow, Jean Cathleen (Mrs. H. J.), B.A. (Alberta), M.A. (Toronto) 1941. 40 Hemlock St., St. Thomas, Ont.

- (A) Tougas, Rolland Raymond. Syracuse University, Collendale B5, Syracuse 10, N.Y., U.S.A.
- (M) Tremblay, Arthur Julien, B.A. (Laval) 1937, M.A. (*ibid.*) 1942, Dip.Voc.Guid. (Montreal) 1944, M.Ed. (Harvard) 1945. Asst. Director, Ecole de Pedagogie, Laval University, Quebec, Que.
- (A) Trott, W. Vernon, B.A. (McMaster) 1932, M.A. (Toronto) 1936. Psychological Consultant, Forest Hill Schools, Toronto, Ont.
- (S) Trottier, Michel, B.A. (Montreal) B.Ps. 8777 Basile Routhier St., Montreal 12, Que.
- (A) Trudelle, J. Armand, B.A. (Laval) 1935, LL.L. (*ibid.*) 1938, B.Sc (*ibid.*) 1941, Soc.Pol.Sc. (*ibid.*) 1946. Regional Director of Staff Training, Unemployment Insurance Commission; 21 Bellingham Rd., Outremont, Que.
- (M) Tuckman, Jacob, B.A. (Columbia) 1929, M.A. (*ibid.*) 1930, Ph.D. (*ibid.*) 1934. 4920 Clanranald Ave., Montreal, Que.
- (M) Turnbull, William W., B.A. (Western Ontario) 1942, A.M. (Princeton) 1943, Ph.D. (*ibid.*) 1944. Head, Test Construction Dept., College Entrance Examination Board; 15 University Place, Princeton, N.J., U.S.A.
- (M) Turner, Gordon Haslam, B.A. (Toronto) 1935, M.A. (*ibid.*) 1936, Ph.D. (*ibid.*) 1939. Assoc. Professor, Dept. of Psychology, University of Western Ontario, London, Ont.
- (M) Tyler, Fred T., B.Sc (Alberta) 1936, M.A. (*ibid.*) 1938, B.Ed. (*ibid.*) 1938, Ph.D. (California) 1939. 14 Haviland Hall, University of California, Berkeley 4, Cal., U.S.A.
- (S) Verdier, Paul André, B.A. (McGill) 1948, B.Sc. (*ibid.*) 1948. 97 MacLaren St., Ottawa, Ont.
- (M) Vernon, William Henry Dalton, B.A. (Queen's) 1936, M.A. (*ibid.*) 1938, A.M. (Harvard) 1942. Professor, Dept. of Psychology, Acadia University, Wolfville, N.S.
- (M) Vinette, Roland, B.A. (Montreal) 1933, Lic.es.Sci.Ped. (*ibid.*) 1937, Ph.D. (*ibid.*) 1943. Professor, Ecole Normale Jacques Cartier, University of Montreal, Montreal, Que.
- (M) Voghel, Joseph Donat, B.A. (Montreal) 1926, M.D. (*ibid.*) 1932, Sc.D. (Paris) 1938. 300 Carré St. Louis, Montreal, Que.
- (A) Wagner, William Philip, B.A. (Alberta) 1931, B.Ed. (*ibid.*) 1947. Guidance Counsellor, Edmonton Public School Board; 12426-111th Ave., Edmonton, Alta.
- (A) Walby, Grace Solveig Hausmann, B.A. (Manitoba) 1938, Dip.Ed. (*ibid.*) 1939. Psychometrist, Reading Clinician, Winnipeg Child Guidance Clinic; 293 Polson Ave., Winnipeg, Man.
- (A) Wallace, Duncan Alexander, B.A. (Acadia) 1947, B.Ed. (*ibid.*) 1948. Collins Street, Yarmouth, N.S.
- (S) Wallace, Elspeth Hareus, Queen's University, Kingston, Ont.
- (A) Wallin, Esther (Mrs.), B.Sc.H.Ec. (Manitoba) 1942. Asst. Psychologist, Infants' Home, Toronto, Ont.
- (A) Waters, Frederick William, B.A. (McMaster) 1911, B.Th. (Edinburgh) 1913, B.D. (*ibid.*) 1935, Ph.D. (Yale) 1941. Professor, Dept. of Philosophy and Psychology, McMaster University, Hamilton, Ont.
- (M) Watson, Charles Burton, B.A. (British Columbia) 1936, M.A. (*ibid.*) 1938. Director of Education, Provincial Mental Hospital. Ste. 38, 2046 Beach Ave., Vancouver, B.C.

- (M) Webster, Edward C., B.A. (McGill) 1931, M.A. (*ibid.*) 1933, Ph.D. (*ibid.*) 1936. Dept. of Psychology, McGill University, Montreal, Que.
- (A) Weckler, Nora (Mrs.), B.A. (Toronto) 1937, M.A. (*ibid.*) 1938, Ph.D. (*ibid.*) 1941. 1846 North Ave. 50, Los Angeles 42, Cal., U.S.A.
- (M) Wees, Wilfred R., B.A. (Alberta) 1923, M.A. (*ibid.*) 1926, B.Ed. (*ibid.*) 1928, Ph.D. (Toronto) 1935. W. J. Gage & Co. Ltd., 82 Spadina Ave., Toronto, Ont.
- (S) Weld, Lindsay Ann, 131 Glenrose Ave., Toronto, Ont.
- (S) Wendt, Russell Allan (Capt.), B.A. (Alberta). No. 1, 26 Phillip Court, Ottawa, Ont.
- (A) Westcott, James William, B.A. (Saskatchewan) 1949. 484 Strathcona Ave., Westmount, Que.
- (A) Wheable, Zaida Mary, B.A. (Western Ontario) 1948. 1 Chalmers Ave., London, Ont.
- (A) Whitworth, Frederick Edward, B.A. (Saskatchewan) 1927, M.A. (California) 1931, Ph.D. (*ibid.*) 1936. UNESCO, 19 Avenue Kleber, Paris 16, France.
- (S) Whitelaw, Robert, 10 Kingswood Ave., Winnipeg, Man.
- (S) Whittaker, Patricia Mann, B.A. (Toronto) 1948. 50 Glenview Avenue, Toronto 12, Ont.
- (A) Wideman, Harley Roy, B.A. (Western Ontario) 1947. Asst. Lecturer, Dept. of Psychology, University of Toronto, Toronto, Ont.
- (M) Wigdor, Blossom Tempkin (Mrs.), B.A. (McGill), M.A. (Toronto) 1946. Psychologist, Dept. of Veterans' Affairs; Apt. 16, 5580 Gatineau Ave. Montreal, Que.
- (M) Williams, David Carlton, B.A. (Manitoba) 1932, M.A. (Toronto) 1937, Ph.D. (*ibid.*) 1940. Professor, Dept. of Psychology, University of Toronto, Toronto, Ont.
- (M) Willis, Charles Barwick, B.A. (Queen's) 1912, M.A. (Columbia) 1921, D.Paed. (Toronto) 1928. 11504-96th St., Edmonton, Alta.
- (M) Wilson, Douglas James, B.A. (Toronto) 1927, M.A. (*ibid.*) 1928, Ph.D. (*ibid.*) 1933. Editorial Staff, The Montreal Star, Montreal, Que.
- (A) Winn, Mary Helen (Mrs.), B.A. (Sir George Williams College) 1946. Y.W.C.A., 21 McGill St., Toronto, Ont.
- (S) Winterbottom, Marian Ruth, B.A. (Western Ontario) 1948. 502 Elm St., Ann Arbor, Mich., U.S.A.
- (A) Wismer, Harry Donald, B.Sc., (Alberta) 1947, B.Ed. (*ibid.*). 112 St. George St., Toronto, Ont.
- (A) Wolofsky, Esther, B.A. (Sir George Williams College) 1946, M.A. (Columbia) 1948. Vocational Counsellor, Jewish Vocational Service, Montreal, Que.
- (M) Woods, David Scott, B.A. (Queen's), M.A. (Manitoba), Ph.D. (Chicago) 1935. Dean, Faculty of Education, University of Manitoba, Winnipeg, Man.
- (A) Woodsworth, Joseph Gowanloch, B.A. (Alberta) 1938, B.Ed. (*ibid.*) 1946. High Prairie, Alta.
- (F) Wright, Henry Wilkes, B.A. (Cornell), Ph.D. (*ibid.*). 243 Sydney St. S., Kitchener, Ont.
- (M) Wright, Mary Jean, B.A. (Western Ontario) 1939, M.A. (Toronto) 1940, Ph.D. (*ibid.*) 1949. Asst. Professor, Dept. of Psychology, University of Western Ontario, London, Ont.
- (S) Wright, Morgan Wilkes, B.A. (Manitoba) 1943. 69 St. George St., Toronto, Ont.

- (A) Wrong, Elisabeth June, B.A. (Toronto) 1947. Canadian Embassy; 2825 Rock Creek Drive, Washington, D.C., U.S.A.
- (A) Young, John Ernest McKim, B.A. (Brandon) 1933, B.Ed. (Saskatchewan) 1940, M.Ed. (*ibid.*) 1941. 19 Beech St., Ajax, Ont.
- (A) Yule, David Lloyd George, 6 Annesley Ave., Toronto, Ont.
- (A) Zubek, John Peter, B.A. (British Columbia) 1946. Dept. of Psychology, Johns Hopkins University, Baltimore, Md., U.S.A.

SUMMARY BY CLASSIFICATION

Honorary Life Fellows	2
Honorary Life Members	2
Fellows	3
Members	167
Associates	252
Student Affiliates	109
Total.....	535

REGIONAL DISTRIBUTION OF MEMBERS

CANADA

Alberta

—CALGARY

Chittick, Miss Rae
Corley, Dr. John B.
Donovan, Mrs. T. W. J.
Finn, T. G.
Fisher, Miss Olive M.
Gander, Mrs. T. A.
Jagoe, Miss Eva
Jagoe, Miss Olive
Light, Miss Phyllis M.
Panabaker, Harold E.
Pettifor, R. E.
Sansom, Dr. Clarence

—DRUMHELLER

Bussard, L. H.

—EDMONTON

Balfour, Harry E.
Birdsall, Elliott H.
Campbell, Dr. Gilbert M.
Coutts, Prof. Herbert T.
Fraser, A. W.
Hart, Dr. Thomas
Howlett, Major John M.
Kibblewhite, E. James
Lucas, Insp. E. J.
MacEachran, Dr. John M.
MacPherson, Dr. Alexander D.
Mardiros, Prof. A. M.
McDougall, Prof. Wm. D.
Oliver, Miss Zella J.
Reeves, A. W.
Scott, Miss Ann
Shortliffe, Ernest C.
Smith, Dr. Douglas E.
Smith, Dr. H. E.
Sparby, Prof. Harry T.
Spearman, Dr. D.
Swift, Dr. Wm. H.
Wagner, Wm. P.
Willis, Dr. Chas. B.

—HIGH PRAIRIE

Woodsworth, Dr. J. G.

—KILLAM

Chalmers, John W.

—LETHBRIDGE

Blackbourne, Lorne H.

—REDCLIFF

Broadfoot, David R.

—RED DEER

McCullough, Miss H. E.

—SEDEGWICK

Simmermon, Miss Elsie L.

—THORHILD

Goresky, Isidore

—THORSBY

Hood, W. R.

—TURNER VALLEY

Karpoff, Rev. Theo. M.

British Columbia

—HANAY

King, Dr. Herbert B.

—NEW WESTMINSTER

Elart, Miss Alice J.
Flesher, Miss Mary F.

—ROSSLAND

Kiefer, Miss R. B.

—VANCOUVER

Belyea, Edwin S. W.
Blewett, Duncan B.
Bolton, Mrs. Margaret W.
Borthwick, John W.
Butler, Alfred J.
Chant, Prof. S. N. F.
Fleury, J. W. A.
Friesen, E. P.
Fry, H. C.
Hewson, Dr. John C.

Jones, Elvert G.
 Lourie, Mrs. M. R.
 MacDougall, J. Innes
 McAllister, Robt. V.
 McCulloch, T. A.
 Munro, Miss Marjory M.
 Nairne, Miss Dorothy B.
 Paisley, John K.
 Plenderleith, Miss E. Mavis
 Signori, Dr. Edro I.
 Thomson, Miss Zillah H.
 Watson, Charles B.

—VICTORIA

Kenny, D. T.
 Richardson, Capt. Arthur G.
 Ritchie, R. L. W.

Manitoba

—BRANDON

Dinsdale, W. G.

—EAST KILDONAN

Fry, Miss Lois M.

—WEST KILDONAN

Karr, Miss Mona

—SELKIRK

Howard, K. G.
 McClellan, Miss Grace I.

—ST. BONIFACE

Desjardins, Miss Patricia R.

—TRANSCONA

Ferguson, Donald G.

—WINNIPEG

Abbott, Wm. E.
 Bellan, Miss Ruth
 Blumes, Miss Syma
 Butler, Miss Barbara A.
 Campbell, Daniel M.
 Chidley, Mrs. George
 Clark, Miss J. M.
 Cochrane, Robt. J.
 Cooke, Allan F.
 Crowe, Major H. A.
 Dark, James G.
 Dolmage, Miss Grace L.
 Ferguson, Miss Zonna J.
 Frizell, R. Noel

Greenberg, Clifford G.
 Higgins, Miss Aileen
 Hogg, Miss Shirley G.
 Hoole, Arthur H.
 Jukes, Miss Norma I.
 Lamond, Donald E.
 Leckie, Mrs. Janet M.
 MacGregor, Miss Mary
 Martens, William
 Mehmel, Philip V.
 Monaghan, Insp. Wm. J.
 Moore, Dr. Andrew
 Parashin, Paul
 Phillips, Geo. E.
 Porter, Miss Georgina E.
 Rinn, Miss Amy M.
 Robinson, Mrs. Ruth E.
 Robson, Clifford J.
 Shiffman, S. R.
 Sibley, Dr. Wm. M.
 Sigesmund, Miss Reesa
 Sirkis, Rubin
 Smith, Dr. C. E.
 Stein, Dr. Harry L.
 Sunde, John A.
 Thompson, Miss Enid R.
 Walby, Miss G. S.
 Whitelaw, Robert
 Woods, Dr. D. S.

New Brunswick

—EDMUNSTON

Therriault, Major M. M.

—FREDERICTON

Bartlett, Mrs. Lenore F.
 Stewart, Dr. David A.
 Thompson, Dr. Louise M.

—MARYSVILLE

Fisher, G. R. D.

—SAINT JOHN

Calp, Miss Marie
 MacLean, Major Jas. D.

—SACKVILLE

Flemington, President W. T. Ross
 Rowcliffe, Rev. R. G.
 Southam, Dr. H. D.

Nova Scotia

—COLCHESTER COUNTY

Ewing, R. M.

—FALMOUTH

Loomer, Miss Alice

—HALIFAX

Kelly, Insp. W. H.

Kimball, R. G. E.

Lawrence, Miss J.

Marshall, A.

Page, Prof. Francis H.

Piers, Miss Ellen V.

—WOLFVILLE

Dennison, C. R.

Grant, Dr. Marion E.

MacMillan, Allister M.

Vernon, Prof. W. H. D.

—YARMOUTH

Wallace, Duncan

Ontario

—AJAX

Young, J. E. M.

—BELLEVILLE

Howard, Dr. J. W.

—BRANTFORD

Reid, Russell

—BROCKVILLE

Smith, Miss M. Roberta

—CHATHAM

Keeley, Mrs. C. D.

—DEEP RIVER

Lister, Mrs. M. W.

—FORT WILLIAM

Hebden, Miss K. Joan

—HAMILTON

Andoff, John E.

Boyce, Miss Elsinore L.

Cox, Kenneth J.

Day, Miss June E.

Robinson, Miss Winifred A.

Waters, Prof. F. W.

—HILLSBURG

Nodwell, W. E.

—KAPUSKASING

Acal, Miss Alice

—KINGSTON

Craig, Wm. J.

Estall, Dr. Henry M.

Houck, John H.

MacKenzie, Miss Alice C.

Philip, B. R.

Poser, E. G.

Shaw, Edward A.

Smith, Alfred A.

Wallace, Miss Elspeth H.

—KITCHENER

Bock, J. C.

Harlow, Milton W.

Wright, Dr. H. W.

—LONDON

Aziz, Miss Yvonne L.

Brawn, Clarence E.

Breen, Harold J.

Brougham, Miss Norma I.

Dettmer, Miss Ruth

Devereux, Ralph S.

Douglas, Miss Peggy

Dunston, Miss Anne J.

Elliott, Miss Elizabeth A.

Ellis, Miss Jane B.

Ferguson, K. George

Fetterly, Allan E.

Graber, Miss Wilda M.

Jeffrey, A. Edgar

LeBas, Miss Margaret G.

Lewis, Miss G. H.

Liddy, Dr. Roy B.

Moore, Richard E.

Neal, Dr. Leola E.

Nethercott, James P.

Rose, Miss Nancy

Shipman, Wm. G.

Spaulding, H. B.
Stevenson, Dr. Geo. H.
Stilwell, Miss A. Grace
Struckett, Miss Pauline B. A.
Turner, Dr. Gordon H.
Wheable, Miss Zaida M.
Wright, Dr. Mary J.

—MERRICKVILLE

Gorman, I. L.

—NAPANEE

Richmond, Miss M. P.

—NORTH BAY

Frith, Mrs. M. E.

—OAKVILLE

Haynes, Major C. Philip
Pullen, Miss Janet E.

—ORILLIA

Goodfellow, H. D. L.

—OTTAWA

Ault, Dr. Orvill E.
Bédard, Dr. Onésime B.
Blair, Major Wm. R. N.
Blanchette, Dr. Arthur E.
Burwell, Mrs. Elinor J.
Cadwell, Miss Dorothy
Conger, D. Stuart
Cook, Dr. T. W.
Cyr, Hervé W.
Dawe, J. F.
Dayhaw, Prof. L. T.
Dumouchel, Dr. Jean-Georges
Dunlop, Dr. Florence S.
Forcier, G. J.
Jackson, H. James
Joly, J. M.
Labrosse, Miss Eva
Morton, Dr. N. W.
Nevin, Insp. W. H.
Patrick, Clifford A.
Perry, Philip C.
Racine, M.
Rivard, R.
Robbins, Dr. John E.
Robillard, Major R. H.

Rosenfeld, G. B.
Shevenell, Prof. R. H.
Szyrnski, Dr. V.
Verdier, P. A.
Wendt, Capt. R. A.

—OVERBROOK

Black, J. E. Lennox

—PALMERSTON

Roos, R. C.

—PARIS

Smith, Albert H.

—PERTH

Lingley, L. R. A.

—PETERBOROUGH

Howson, Rev. J. D. L.

—RICHMOND HILL

Northway, Dr. Mary L.

—SARNIA

Cole, Miss Vera O.
Hough, Rev. A. J. B.
Lamond, C. M.
Rogers, W. Frank

—ST. THOMAS

Lazenby, Miss M. Ruth
North, Sidney L.
Thurlow, Mrs. H. J.

—STRATFORD

Bowers, Miss Joan E.

—STURGEON FALLS

Fouriezos, Nicholas T.

—TORONTO

Abraham, Nelson W.
Alderdice, E. T.
Aldridge, Gordon J.
Baker, C. H.
Bannerman, Lloyd C. F.
Beattie, Miss Dorothy M.
Beattie, Howard R.
Bell, R. John R.

Bernhardt, Dr. Karl S.
Blair, Miss Patricia
Blatz, Dr. Wm. E.
Blum, Mrs. Mary H.
Bott, Prof. E. A.
Boyd, John B.
Brown, Miss A. Jean
Burnett, A.
Burns, Miss Joyce H.
Cadwell, J. Roy
Carson, Miss Marjorie E. C.
Chellew, Leonard G.
Coons, Wesley H.
Cosgrave, Dr. Gerald P.
Davey, Mrs. R. C.
Davis, Miss Inez A.
Dawkins, P. B. H.
DeLaporte, Miss Helen
Dent, R. W.
Elliott, Geo. G.
Fedder, Miss Shirley
Findlay, Miss Margaret H.
Fisher, Edward J.
Fitzgerald, Dr. G. Walker
Fowler, Dr. Hanford M.
Fram, Mrs. Isobel
Gelfand, Leonard
Gerstein, Dr. Reva
Goudey, Miss Elizabeth S.
Govan, A. D.
Grapko, Michael F.
Grimmon, Major Jas. W.
Guyot, Roger
Haagen, Dr. C. Hess
Hamill, Miss Ruth
Highman, Miss Sylvia
Hill, Miss F. Marguerite
Hobday, Miss Kathleen M.
Hoffman, Irving J.
Hughes, Miss M. Athol
Hulse, Miss Helen
Ireland, Ralph R.
Irving, Prof. John A.
Jourard, Sidney M.
Joyner, Robt. C.
Kalant, Mrs. Levonah
Kara, Mrs. Pearl
Keschner, Miss Dorothee A.
Ketchum, Prof. J. D.
King, Mrs. Margery

Knight, Charles N.
Laidlaw, Robt. G. N.
Lazar, Leo
Levinson, Mrs. Toby F.
Lewis, Miss Ruth
Line, Dr. Wm.
Long, Dr. Eleanor R.
Long, James A.
Long, Dr. John A.
Lowry, Miss A. Corinne
MacDonald, D. Stewart
MacDonald, Miss Marion
MacLeod, D. M.
Marshman, Cameron S.
Martin, Miss Ruth
McBride, Miss Irene H.
McFadgen, Miss Lorna B.
McIntyre, Keith M.
McLeod, H. N.
McQuaig, Jack H.
Millichamp, Miss Dorothy A.
Moore, Dr. Herbert
Myers, Dr. C. R.
Nicholson, Miss Jean G.
Nicholson, R. H.
Olstead, Miss M. R.
Parkin, Alan C.
Parmenter, Morgan D.
Peat, J. R.
Pivnick, Mrs. Charlotte L.
Porter, Mrs. Helen M.
Potashin, Miss Reva
Pullan, Mrs. Vivian
Record, Father M. A.
Rogers, Dr. Kenneth H.
Ross, R. W.
Rotenberg, Miss Bluma R.
Salter, Dr. Mary D.
Sampson, Donald
Sawatsky, John C.
Seeley, H. John
Sniderman, Miss Goldene
Stapleford, Miss Elsie
Stee, Miss Marjorie J.
Steer, H. O.
Stehelin, Mrs. J. W.
Stevens, Mrs. G. W.
Stevens, Vernon S.
Stothers, Dr. C. E.
Taylor, Sherman J.

Trott, W. Vernon
 Wallin, Mrs. Esther
 Wees, Dr. Wilfred R.
 Weld, Miss L. A.
 Whittaker, Miss Patricia
 Wideman, H.
 Williams, Dr. D. C.
 Winn, Mrs. M. H.
 Wismer, H. D.
 Wright, Morgan W.
 Yule, D. L. G.

—TRENTON

Bernier, Capt. Robt. E.

—WATERLOO

Scott, Wm. G.

—WOODSTOCK

Gray, W. A.

Quebec

—HULL

Guitard, M.

—LACHINE

Christie, Paul A.
 Fraser, W. Ross
 Sloan, E. P.

—LOUISEVILLE

Caron, C.

—LONGUEIL

Cumberland, Miss Jeune R.

—MASTAI

Miller, Dr. J. Chas.

—MONTREAL

Barbeau, Dr. Gerard L.
 Beauchemin, J. M.
 Bechard, Miss Monique
 Bois, Dr. J. S. A.
 Blackburn, Dr. J. M.
 Boyd, Rex D.
 Bridges, Prof. Jas. W.
 Brown, Major F. T.
 Brunet, Miss G.
 Chevrier, Jean-Marc

Cholette, Miss Françoise
 Clarke, Prof. Douglas B.
 Clarke, F. R.
 Courval, J.
 Decarie, Mrs. T. M.
 deGrandmont, Sylvio
 Desautels, Gerard
 DesOrmeaux, R.
 Dominique, Brother
 Ethier, Dr. Wilfrid
 Farebrother, Alfred E.
 Ferguson, Dr. Geo. A.
 Feyer, Miss Leona
 Fraser, W. R.
 Gadoury, Prof. Louis D.
 Gagnon, J. A. A.
 Greenberg, N.
 Hebb, Dr. D. O.
 Klein, E. T.
 Klions, Herbert L.
 L'Archevêque, Dr. Paul
 Laurier, Prof. Blaise
 Lessard, J. C.
 Luke, Brother
 Lussier, A.
 MacLeod, A. A.
 Mailloux, Prof. Noel
 Malmo, Dr. Robt. B.
 Mann, W. G.
 Mathieu, Miss Claire
 McFarlane, Arthur H.
 Milner, Miss Brenda A.
 Mohier, J.
 Moreau, Gilles Y.
 Norris, Dr. Kenneth E.
 O'Reilly-Hewitt, Frederick T.
 Page, Joseph L.
 Prefontaine, Leonard
 Read, Miss L. M.
 Riedl, Rev. George E.
 Ross, Mrs. Verity M.
 St. Pierre, L. H.
 Schleihau, J. P.
 Shagass, Charles
 Shane, S. Gerald
 Shapiro, Mrs. Evelyn
 Sofin, Mrs. Rosalie
 Stein, Miss Ruth L.
 Trottier, M.
 Tuckman, Dr. Jacob

Vinette, Prof. Roland
 Voghel, Dr. J. Donat
 Webster, Dr. Edward C.
 Wigdor, Mrs. Blossom T.
 Wilson, Dr. Douglas J.
 Wolofsky, Miss Esther

—NORTH HATLEY
 Farquhar, A. B.

—OUTREMONT
 Léveillé, Mme. Arthur
 Trudelle, J. A.

—QUEBEC CITY
 Bilodeau, Charles
 Moreault, Louis
 Plourd, A. A.
 Tremblay, Prof. Arthur J.

—RIMOUSKI
 Joly, Richard

—SILLERY
 Gauthier, G.

—VAUDREUIL
 Rossignol, Dr. Leo

—WESTMOUNT
 McCracken, Edward J.
 Murray, Kenneth H.
 Westcott, J. W.

Saskatchewan

—MOOSE JAW
 Stewart, Miss Elizabeth B.

—REGINA
 Bingham, Insp. Lloyd
 Buck, Miss Janet
 Kliman, Earl M.
 Lane, Miss R. Jacqueline

—SASKATOON
 Bexton, W. H.
 Clark, Prof. Stanley
 Costello, John J. M.
 Laycock, Dr. S. R.

UNITED STATES

California

Britton, Edward C.
 Gaddes, W. H.
 Schuhmann, Dr. A.
 Swanson, Donovan A.
 Tyler, Dr. F. T.
 Weckler, Mrs. J. E.

McGuire, J. Carson
 McQuitty, Dr. Louis L.
 Milner, Miss Esther
 Thompson, W. R.

Colorado

Ajello, Peter A.

Maine

McCreary, Dr. J. K.

Maryland

Riley, L. P.
 Zubek, John P.

Connecticut

Rosvold, H. E.
 Swann, Prof. Reginald L.

Massachusetts

Arnold, Dr. Magda B.
 Snider, Mrs. G. L.

District of Columbia

Wrong, Miss E. J.

Michigan

Blum, Wm. D.
 Winterbottom, Miss Marian

Hawaii

Morsh, Dr. Joseph E.

Minnesota

Gregory, Mrs. Doris

Illinois

Ashby, Mrs. M. I.
 Eson, M. E.
 Goodman, Mrs. Florence S.

New Hampshire

Lachlan-White, Dr. K.

New Jersey

Turnbull, Dr. Wm. W.

New York

Alexander, Dr. Frances S.

Harrower, Dr. Molly R.

Holdsworth, B. H.

Johnson, C. E.

MacLeod, Dr. Robt. B.

Marcuse, Dr. Fred

McCulloch, Miss Mary

Nelson, Marven O.

Stewart, R. A. D.

Tougas, R. R.

Ohio

Hampton, Peter

Ross, Dr. W. Donald

Sage, Miss F. Margaret

Pennsylvania

Arnold, Dr. Magda B.

Blake, Prof. W. D.

deJersey, Murray G.

Ross, Dr. Sherman

Rhode Island

Hughes, Miss Marcia Y.

South Carolina

Russell, Dr. Olive R.

Texas

Gottheil, Edward

Miller, Rev. R. G.

Utah

Samuels, Dr. Arthur J.

Washington

Checov, Louis

Freehill, M. F.

UNITED KINGDOM

Humphrey, Prof. George

Lampard, Miss Dorothy M.

Misselbrook, Bertram D.

Paterson, Miss Anne, T.

Penrose, Dr. Lionel S.

Somers-DeHaney, Mrs. K. G.

Somers-DeHaney, K. G.

FRANCE

Whitworth, Dr. F. E.

HOLLAND

Allen, Mrs. Peter

SOUTH WEST AFRICA

Leitch, Mrs. Bernice P. H.

ADDRESS UNKNOWN*

Bailey, Major S. J.

Belford, Major J. A.

Burbank, Major E. F.

Cook, Prof. John T.

Dower, Miss Lola

Dufresne, G.

Fitzpatrick, Capt. Henry J.

Fletcher, Miss E. I.

Jones, Mrs. Marie A.

Kesten, Capt. S. N.

Leggett, Miss Dorothy E.

Prewer, Major V. H.

Reid, Miss Phyllis M.

Shaw, Miss Marguerite

Thompson, Miss Ruth S.

Winn, Mrs. Mary Helen

*Will anyone knowing the present address of any of these members please notify the Secretary-Treasurer, 100 St. George St., Toronto.

